

ANNUAL REPORT

OF THE

MEDICAL OFFICER

TO

The County Council

OF

NOTTINGHAMSHIRE,

FOR THE YEAR 1909,

BY

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. . INDEX. . .

	PAGE		PAGE
Administration of Midwives' Act	30-37	Infectious Diseases, Removal to	
Administrative County	5-8	Hospital	42
Ages at Death, Tables viii., ix., x. and xi.		Influenza	55
Age and Sex Constitution of		Institution Deaths	15
Population	14	Isolation Hospitals	37-40
Annual Reports	8	Local Government Board In-	
Area of Administrative County	8	quiries	4, 66, 74
Average Death-rate for 10 years	16-20	London County Council and	
" Birth-rate for 10 years	13	Notts. Milk	61
Bakehouses	85-87	Measles	54
Births	9	Medical Officers of Health	8
Birth-rate	9-13	" " Tables iii., iv.	
Causes of Death, Tables vi. to xi.		Membranous Croup	46
" " Allocation of	7	Mechanical Milkers	62
" " Classification	7	Midwives' Act, Administration of	30-37
Chicken Pox	43	" Supply of Forms	37
Conservancy System	77, 78	Milk Supply	60-66
Consumption	56-60	Milk and Tuberculosis	59, 60, 61
Consumption Dispensary	58	Notification of Births	20-22
Corrected Death-rate	14	" of Infectious Diseases	42
Cowsheds	62-66	" of Tuberculosis	56
Croup, Membranous	46	Overcrowding	83
Dairies, Cowsheds and Milkshops	60-66	Paving of Yards	25, 26, 51, 80, 81
Deaths	13	Phthisis	56
Deaths uncertified	19, 20	Population, Rate of Increase	3, 9
Death-rate	3, 13-16	Printing Annual Reports	8
" nett	13-15	Puerperal Fever	35, 52-54
" nett, corrected for age		Rainfall, Table xiii.	
and sex	14	Registration County	5-8
" for groups of 10 years	3, 13, 16	Removal to Hospital	42
" for illegitimate infants	11, 19	River Pollution	74, 75
" Urban and Rural	14	Rural Districts, Tables ii., iv., and vii.	
Destructor	76, 79, 80	Sanatorium Treatment of Con-	
Disinfection	40	sumption	58
Diarrhœa	17, 29, 56	Sanitary Work	77, 78
Diphtheria	46-48	Scarlet Fever	44, 45
" Antitoxin	47, 48	Scavenging	78-80
Drainage	75-78	Schools	41
Duties of County Medical Officers		Slaughter-houses	84, 85
prescribed by the Local		Sewage and Sewage Disposal	75, 76
Government Board	89, 90	Small Pox	43
Enteric Fever	49-52	Smoke Prevention	81, 82
Enteric Carrier Cases	49	Still-births	10
Epidemic Enteritis	17	Tuberculosis from Milk	59, 60, 61
Factories and Workshops	85-87	Tuberculosis	56-60
Feeble minded	10	" Exhibition	59
Fertility of Women in Town		" Notification	56
and Country	12	" Treatment of Patients	53-60
Flies as disease carriers	49, 52	Typhoid Fever	49-52
Food and Drugs Act	85	" Carriers	49
Health Visitors	20-22, 26-29	Uncertified deaths	19, 20
Housing	82, 83	Urban Districts, Tables i. iii. and iv.	
Houses unfit for Habitation	83	Vaccination	43
Housing and Town Planning Act		Veterinary Inspection for Milch	
(Duties of County Medical		Cows	62-65
Officers)	88	Water Supply	66-74
Illegitimate Births	10, 11	Water Supplies (Protection) Bill	68-71
Infantile Death-rate	17-29	Whooping Cough	55
Infantile Mortality (L.G.B. Chief		Workplaces	85-87
Medical Officer's Recom-		Workshops and Factories	85 87
mendations)	25, 26	Zymotic Death-rate	17
Infectious Diseases, Notification			
of	42-43		

THE SHIRE HALL,

NOTTINGHAM,

September 1st, 1910.

MY LORDS AND GENTLEMEN,

I have the honour to present my fourteenth Annual Report, which deals with the year 1909. It consists, as in former years, of an analysis of the Annual Reports of the Medical Officers of Health of the 26 Districts into which the Administrative County is divided for sanitary purposes, together with Tables of Vital Statistics derived from those Reports, and based upon the Forms of the Local Government Board. No new forms have been issued this year.

Although the statistics are confined to the year 1909, other matters relating to Public Health have been brought as far as possible up to the date of publication.

The estimated population for the middle of the year 1909 was **340,405**, shewing an increase of 5,466 on the population of 1908, an increase at the rate of **1·63** per cent., compared with 2·32 last year.

The birth-rate was 28·6, a decrease of ·7 per 1,000 from last year. At the same time the infantile death rate, or the deaths of infants under one year of age per 1,000 births, was much smaller than ever before, having fallen to 106 from 119 in the previous year: a striking illustration of the benefit of Public Opinion steadily directed to one object.

The gross general death-rate was also the lowest hitherto recorded, namely, 12·7 per 1,000. When corrected for the deaths in Public Institutions it is increased to 12·9; but when further corrected for "age and sex distribution" as explained on page 14 it falls to 12·3.

If taken in groups of years, the progressive diminution of the death-rate is most striking.

*Average death-rate for the	10 years	1861-70	=21·7	per 1,000
"	"	10 "	1871-80	=21·4 "
"	"	10 "	1881-90	=19·6 "
"	"	10 "	1891-1900	=16·4 "
"	"	year	1909	=12·7 "

If the death-rate prevailing in the ten years 1861-70 had continued during the year 1909 there would have been 3,065 **additional deaths**, for that year alone, of persons now living!

* For further details see pages 13-16.

These 3,065 lives may truly be said to have been saved in one year by Sanitation and Preventive Medicine.

The prevalence of Infectious Disease in the County again shewed a considerable diminution.

Two Local Inquiries were held by the Local Government Board in connection with sewerage and sewage disposal, and were attended by the County Medical Officer. See pages 74-75.

The administration of the Midwives Act has occupied an unusual amount of attention on account of section 1 (2) coming into operation on April 1st, 1910. The new Rule of the Central Midwives Board, by which untrained, *bonâ fide* Midwives are given a further opportunity of obtaining certificates until September 30th, 1910, has greatly increased the work of the Inspector. A full account is given on pages 30-37.

In a Supplement to the 39th Annual Report of the Local Government Board, published in July, 1910, the Chief Medical Officer (Dr. Newsholme) has prepared a Special Report upon *Infant and Child Mortality*, which is exceedingly valuable, and which clears up some doubtful points, especially regarding the relationship of Infant Mortality to Mortality at higher ages. Several extracts, together with Dr. Newsholme's recommendations, are given on pages 22-26. It is there stated very clearly that the neglect by local sanitary authorities of their plain duties in connection with privies, scavenging, and the paving of back yards is largely responsible for the continuance of an unnecessarily high infant mortality.

The work and responsibilities of the County Medical Officer have been largely increased by Part iii. of the Housing, Town Planning, &c., Act, 1909, and by the duties prescribed by the Local Government Board, in accordance with section 68 of that Act, and which are given on pages 88-90.

The vital statistics of the County are dealt with on pages 9-22, and in Tables I. to XII. at the end of this Report.

An account of the rainfall for 1909 in eleven districts is given in Table XIII.

A very short abstract of the work done by the Medical Officers of Health for the various Districts in the County under the Factory and Workshops Act, is given upon pages 85-87, and the adjoining Tables.

I have the honour to remain,

Your obedient servant,

HENRY HANDFORD.

ANNUAL REPORT.

The Annual Report of the County Medical Officer is the *only* record of the health of the whole Administrative County over which the County Council exercise jurisdiction.

Administrative versus Registration County.

It is still necessary to point out that the Report of the Registrar-General deals with the *Registration County*, which differs very essentially from the Administrative County both in area and population, including, as it still does, nearly 100,000 persons residing in Derbyshire, Leicestershire, Lincolnshire, and the West Riding of Yorkshire, in addition to the majority of the population of the Administrative County, and the whole of the population of the City of Nottingham, and the Borough of Ilkeston; thus making a total of considerably more than half-a-million persons.

Since attention was first called to this subject in these reports, much progress has been made, and the following extracts from the 38th Annual Report of the Local Government Board, 1908-9: Supplement containing the Report of the Medical Officer, pages v., vi., and from the 71st Annual Report of the Registrar-General, 1908, pages lxxiv.-lxxv., intimate that the desired change may be effected in 1911. The suggested compromise of continuing to collect statistics for registration areas, but publishing them for sanitary areas and administrative counties has been advocated by the County Medical Officer for many years.

The importance of a careful distribution of Institution Deaths, and of the adoption of a uniform system of classifying deaths by local authorities is ably pointed out by the Registrar-General.

Dr. Newsholme writes:—"From the Annual Report of the Registrar-General one cannot obtain vital statistics for separate sanitary areas, but only for registration counties and registration districts; and its laboriously tabulated results as to localities can, therefore, be utilised for administrative sanitary purposes, their main channel of potential utility, only in the exceptional instances in which the registration and sanitary areas happen to coincide. Even in

“these instances there is the further difficulty that the
 “statistics are not corrected for institutions. It is earnestly
 “to be desired that before the next census, arrangements will
 “be made for publishing vital statistics for units of sanitary
 “administration, or in the case of those units which are too
 “small for statistical purposes, as they certainly are for effi-
 “cient administration, for aggregations of two or more sanitary
 “units.”

The Registrar-General writes :—“*Proposed change in form
 of publication.* It remains to refer to the subject of some
 “important changes of form which have been urged upon this
 “Department, and which, if the administrative difficulties can
 “be overcome, would undoubtedly much increase the practical
 “utility of the Vital Statistics annually presented in these
 “Reports by bringing them for the first time into touch with
 “the local sanitary administration of the country. The crea-
 “tion of administrative areas for sanitary administration,
 “referred to in some earlier paragraphs of this Report (pages
 “vi.-vii.), has led to a strong demand for vital statistics relat-
 “ing to those areas, and to some criticism of the organisation
 “for registration which, applying as it does to areas other than
 “those for which the information is required, has hitherto
 “prevented the provision of the desired statistics in full.”

“Proposals have from time to time been put forward that
 “in order to remedy this defect the registration areas should
 “be made partially or completely co-terminous with the
 “administrative areas. The obstacles in the way of such a
 “proceeding are, however, too serious to be overcome except
 “by legislation, going to the length of a new Registration Act.
 “But it does not follow that because, short of such legislation,
 “registration statistics must continue to be collected for re-
 “gistration and not for administrative areas, their publication
 “need necessarily also retain this form. In other words, the
 “area of collection does not necessarily govern that of pre-
 “sentation. Provisional investigation of the question from
 “this point of view has led to the conclusion that it may be
 “possible at a future date to re-distribute the returns (collected
 “as before by registration areas) according to administrative
 “areas, though it will probably be impracticable to publish
 “separate statistics for all the smaller areas.”

“The presentation of the statistics in this new grouping
 “would, however, involve a number of difficulties, some of
 “them inseparable from any change affecting the present
 “methods of tabulation in this Office, and others incidental to
 “the proposed correspondence of the areas reported upon
 “with those concerned with local sanitary administration.”

“Difficulties of the second class, some of them not apparent at first sight, occur because of the extreme desirability that the methods of compilation employed, both for the purposes of this Report and locally, should be identical. There would be grave disadvantages attaching to the publication of national and local statistics for the same areas, but compiled by different methods, and therefore presenting avoidable discrepancies.”

“It would be necessary, for instance, that at least institutional deaths of persons not resident in the district in which they die should no longer be assigned in tabulation to that district, but should be assigned to the district of previous residence. This assignment, while in itself essential to the presentation of correct local rates of mortality, would tend to co-ordinate the national statistics with those compiled by Medical Officers of Health under the direction of your Board, since these officers are already called upon to make such a correction. In order to carry out this reform, however, it would be necessary to provide both for some further increase of work and for the identity of the rules to be observed by all who have to make the correction. It is hoped that by consultation with your Board such uniformity of practice might easily be secured.”

“In addition to the re-arrangements of recorded facts already referred to, another most important matter presents itself for consideration as one of the difficulties incidental to the correspondence of areas with those reported upon locally. This is the co-ordination of the national and local lists of causes of death, and of the rules to be observed in allocating the causes of death as certified to the various headings in such list. The lists need not, indeed, be identical, but the differences between them should consist only in one being more elaborate than the other.”

“The necessity for agreement as to classification, as well as the progress of medical science since the last revision of the present classification in 1901, will probably be found to entail some further modifications, and it is proposed to take advantage of this opportunity to approximate the English classification to the International System, as far as may be found possible, without destroying the valuable continuity of our records. The latter system, which is based upon the work of Dr. Farr, is in use in Canada and Australia, and in many foreign countries. The advantages, for the purpose of international comparison, which would attend this course, are therefore obvious, and there is reason to believe that a great deal can be done in this direction without any serious

“sacrifice of continuity. An instance of this is to be found in “Dr. Stevenson’s treatment of diarrhoeal diseases in his letter “on the causes of death; and it is hoped that this preliminary “statement of what is proposed will promote expression of “responsible opinion upon the various points to be decided.”

“It will be gathered from the above statement of the “difficulties involved, that the change could not be introduced “without some increase of staff and expenditure, and that this “Department has, therefore, not a free hand in the matter. “In view, however, of the representations which have reached “me, and with which I have reason to believe your Board is “in sympathy, I have thought it right to refer to the question, “and to mention that I am carefully investigating it with a “view to determining whether the practical difficulties can be “surmounted without such a disproportionate increase of the “cost of providing these statistics as would make it useless to “put forward the proposal for sanction.”

“The change, I may add, could not in any case be intro- “duced before the preparation of the Report for the year 1911, “owing to the requirements of the Decennial Supplement.”

Annual Reports.—The Reports were received on the following dates :—

Feb. 8th	Misterton.	Mar. 14th	Warsop.
„ 11th	Leake.	„ 21st	Arnold.
„ 14th	Newark Rural.	„ 22nd	East Retford Borough
„ 15th	Eastwood.	„ 22nd	Blyth and Cuckney.
„ 19th	Carlton.	„ 22nd	Southwell.
„ 24th	Mansfield Woodhouse	„ 22nd	Newark Borough.
„ 26th	Kirkby-in-Ashfield.	April 6th	Basford.
Mar. 1st	West Bridgford.	„ 7th	Sutton-in-Ashfield.
„ 3rd	Mansfield Borough.	„ 8th	Beeston.
„ 5th	Workshop.	„ 18th	Hucknall Torkard.
„ 9th	Huthwaite.	May 4th	Bingham.
„ 11th	East Retford Rural.	„ 18th	Kingston & Ratcliffe.
„ 12th	Stapleford.	„ 24th	Skegby.

Printing Annual Reports.—All the District Councils now print the Annual Reports of their Medical Officers of Health, except Leake and Misterton. The Reports for both these districts are typewritten.

Medical Officers of Health.—The only change is the appointment of Dr. H. C. T. Langdon, B.A., M.R.C.S., L.R.C.P., for the Borough of Mansfield, in the place of Dr. Wills, who has resigned Mansfield but retains his other districts. Dr. Langdon was previously one of the assistants of Dr. Kaye, Medical Officer of Health of the large and populous County of the West Riding of Yorkshire.

Area.—The area of the Administrative County amounts to 521,440 acres or $814\frac{3}{4}$ square miles, exclusive of water.

Population.—The *natural* increase of population for the year 1909, by excess of births over deaths was 5,416 or 1·61 per cent. upon the population of 1908, compared with 1·66 last year.

The *estimated* population of the County at the middle of the year 1909, was 340,405, shewing an increase of 5,466, or 1·63 per cent. upon the population of 1908. This is only 50 above the natural increase and suggests that owing to industrial depression, immigration into the County had ceased for the time.

The estimated increase in the Urban Districts was 4,799 or 2·3 per cent., and in the Rural, 667, or 0·52 per cent. The *estimated* population of the County has been arrived at by adding together the populations of the 26 districts, which have been calculated by each Medical Officer of Health for his own district from local knowledge. The calculation is made by a consideration of the number of houses on the rate-book, the number of new houses, and of empty houses, and by taking the number of persons per house found to prevail in the district at the date of the last Census. This is the nearest approximation that is available. But this calculation, even when carefully made, is liable to fallacy, as the number of lodgers taken in, and consequently the number of persons per house, is apt to vary considerably in times of good trade and bad trade, and in inverse ratio to the rate of building.

Calculated according to the rate of increase shewn between the Census of 1891 and the Census of 1901, the population at the middle of the year 1909 should have been 316,052. This is probably too small; and on the other hand the local estimates are probably somewhat too high.

The birth-rates and death-rates have been calculated upon the *estimated* population. But now that we are nine years from the last Census, the uncertainty as to the true population of the rapidly-growing Urban Districts greatly impairs the value of important statistics, and *renders a quinquennial Census a matter much to be desired.*

The Registrar-General writes :—“ It cannot be too strongly urged that a more frequent Census enumeration is the true remedy for this state of things.”

Births.—During the year, 9,740 live births were registered; corresponding to a rate of 28·6 per 1,000 of the population.

This is a decrease of only 0·7 per 1,000 compared with 1908, when an increase of 2 per 1,000 was registered. Whether the general fall in the birth-rate is altogether an unmixed evil is a question upon which much might be said. Unfortunately,

the fall in the birth-rate effects different portions of the population in very varying degrees. In too great a measure the birth-rate is the result of the reproduction of the unfit. The lowest birth-rate is to be found (as at West Bridgford with a rate of only 15·2 per 1,000) among the better educated and more prosperous classes, including the superior mechanic and artisan. There is little, if any, fall in the birth-rate among the least educated stratum—the proletariat. They have in all ages shewn a great capacity for reproduction; and, indeed, were so named in Roman times because they served the state, not with property but with their children (proles=offspring).

The Reports of the Royal Commission on the care and *control* of the feeble-minded shew only too clearly how rapidly that class reproduce their kind and continue to multiply. The delay in legislation upon the lines indicated in those Reports is responsible for the continuance, if not the increase, of a class who are a serious moral and financial burden upon the community.

Very little is done to encourage, and much to discourage large families among those who are the backbone of the state. Parents with large families, especially among the poorer wage earners, find great difficulty in obtaining houses with sufficient rooms to afford decent accommodation at a rent within their means. Not unfrequently suitable accommodation cannot be obtained at any price, and overcrowding is the result. In how many instances, too, do employers refuse to employ men with large families?

Whether sufficient care is taken of the children that are born will be discussed under the heading of **Infantile Mortality** and the **Notification of Births Act**.

Very scanty information can be given as to the number of still-births occurring in the County each year. At present, still-births are not registered, and the information under the **Midwives Act** is all that is obtainable.

In accordance with the Rules of the Central Midwives Board under the **Midwives Act**, notices of 106 still-births were sent to the County Council by certified midwives during the year 1909, compared with 101 last year—a close approximation. These must be a very small portion of the whole number of still-births occurring in the County during the year. And yet in many instances the distinction between live-birth and still-birth is so fine as to leave the door open to serious dangers.

Illegitimate Births.—Number V. of the Forms issued by the Local Government Board now requires the legitimate and the illegitimate births to be entered separately; and this has now been done for all the districts.

In the whole County there were 408 illegitimate births, or a proportion of 41·8 per 1,000 registered births, compared with 39·0 last year. In the Urban districts there were 41·0 per 1,000 births, and in the Rural districts 43·3. The infantile mortality among the illegitimate children was 191 per 1,000 births compared with 102 for the legitimate!

The terrible mortality, which always afflicts in varying degree illegitimate off-spring, is one of the evils of illegitimacy. This great mortality cannot be considered an unimportant evil as it is associated with a proportionately increased amount of sickness and defective health amongst the survivors for which, usually, the state is required to pay.

THE NUMBER OF LEGITIMATE AND ILLEGITIMATE BIRTHS, AND
OF MALE AND FEMALE BIRTHS FOR EACH DISTRICT,
IN THE YEAR 1909.

URBAN DISTRICTS.	Births.	Legiti- mate.	Illegiti- mate.	Males.	Females.
Mansfield.. ..	1,109	1,064	44	531	577
Newark	441	415	26	216	225
East Retford	366	338	28	197	169
Arnold	320	306	14	156	164
Beeston	279	272	7	150	129
Carlton	457	443	14	219	238
Eastwood.. ..	154	154	..	76	78
Hucknall Torkard	540	516	24	250	290
Huthwaite	193	175	18	109	84
Kirkby-in-Ashfield	579	558	21	304	275
Mansfield Woodhouse	421	416	5	204	217
Sutton-in-Ashfield	674	650	24	317	357
Warsop	177	177	..	81	96
West Bridgford	182	180	2	102	80
Worksop	614	574	40	314	300
TOTAL	6,505	6,238	267	3,226	3,279
RURAL DISTRICTS.					
Basford	1,206	1,156	50	618	588
Bingham	314	295	19	159	155
Blyth and Cuckney	110	106	4	47	63
East Retford	329	312	17	176	153
Leake	64	63	1	27	37
Misterton	94	90	4	47	47
Newark	204	190	14	104	100
Skegby	211	203	8	115	96
Southwell	398	383	15	209	189
Stapleford	294	285	9	141	153
Kingston and Ratcliffe	11	11	..	5	6
TOTAL	3,235	3,094	141	1,648	1,587

In the following tables the birth-rates of the different districts in the County are given for the year 1909, and also for the past 10 years. From these it will be clear that the distinction into Urban and Rural Districts does not separate the high birth-rates from the low; but that the high birth-rates prevail in the coal mining and manufacturing portions of the County, whether they are denominated Urban or Rural, and the low birth-rates in the agricultural and residential portions.

It might be inferred from these tables that the fertility of married women is greater in Urban than in Rural areas. The researches of the Registrar-General show that the fertility of women living in the country districts is from 5 to 8 per cent. greater than that of women residing in towns.

It must, however, be observed that the continuous migration of young persons from the country has considerably reduced the normal proportion of the younger married women and, therefore, has reduced the average birth-rate in Rural Districts.

It might be hastily assumed that the high birth-rates prevailing in the mining districts and in certain Urban areas are more effective in the maintenance of population than the moderate birth-rates recorded in Rural and other districts; but such is not always the case. In a previous Report the subject was fully discussed, and a series of Tables was published showing the effect of child mortality on the numbers of the population. From those Tables it was deduced *that moderate birth-rates associated with low mortality among the children are more effective in the up-keep of population than are high birth-rates associated with excessive child mortality.*

The rates of child mortality or the infantile death-rate are shewn for the different districts in the Tables on pages 18-19.

BIRTH-RATE FOR 1909, PER 1,000 OF THE POPULATION.

URBAN DISTRICTS.	RATE.	RURAL DISTRICTS.	RATE.
Mansfield Woodhouse ..	40·0	Skegby	30·8
Warsop	39·5	Stapleford	29·5
Huthwaite	36·7	Basford	28·8
Kirkby-in-Ashfield ..	34·3	Kingston and Ratcliffe ..	27·9
Sutton-in-Ashfield ..	32·9	Newark	25·3
Mansfield	32·5	Blyth and Cuckney ..	23·2
Hucknall Torkard ..	31·7	East Retford	23·1
Worksop	31·3	Bingham	22·2
Arnold	29·7	Misterton	22·2
Eastwood	29·5	Southwell	21·0
Carlton	28·9	Leake	17·2
East Retford	26·7	AVERAGE RURAL DISTRICTS	25·4
Newark	26·5		
Beeston	24·7		
West Bridgford	15·2		
AVERAGE URBAN DISTRICTS	30·4		

AVERAGE BIRTH-RATE FOR THE TEN YEARS, 1899-1908,
PER 1,000 OF THE POPULATION.

URBAN DISTRICTS.		RATE.	RURAL DISTRICTS.		RATE.
Mansfield Woodhouse	..	42.1	Skegby	.. ..	34.0
Warsop	.. ..	40.5	Basford	.. ..	30.6
Huthwaite	.. ..	40.1	Stapleford	.. ..	30.3
Sutton-in-Ashfield	.. ..	37.2	Misterton	.. ..	27.7
Kirkby-in-Ashfield	.. ..	37.0	Newark	.. ..	25.5
Hucknall Torkard	.. ..	33.6	Blyth and Cuckney	..	24.8
Worksop	.. ..	33.0	Leake	.. ..	24.3
Mansfield	.. ..	32.6	Southwell	.. ..	23.4
Arnold	.. ..	31.0	East Retford	.. ..	23.2
Eastwood	.. ..	30.9	Bingham	.. ..	21.9
Carlton	.. ..	29.7	Kingston and Ratcliffe	..	18.8
Newark	.. ..	28.7	AVERAGE RURAL DISTRICTS		26.9
Beeston	.. ..	27.4			
East Retford	.. ..	26.0			
West Bridgford	.. ..	17.6			
AVERAGE URBAN DISTRICTS		32.0			

Deaths.—The number of deaths registered in the County in 1909 was 4,324, compared with 4,367 in the previous year. *Of these, 1,035, or nearly one-quarter, occurred in infants under one year of age.*

The gross death-rate per 1,000 of the population of the County for 1909 was **12.7**, which is the lowest rate during the past 19 years.

When the necessary adjustment has been made for deaths in Public Institutions, as explained on page 15, the *nett* number of deaths belonging to the County becomes 4,424, and the *nett* death-rate 12.9.

It has not been possible to obtain the death-rate for the Administrative County before the year 1891. For comparison of the death-rates in earlier years, it is necessary, therefore, to have recourse to the Registration County, the composition of which is described upon page 5. These rates, including as they do the City of Nottingham, are no doubt slightly higher than those for the County alone, if we could obtain them, but they are the only means of comparison available.

REGISTRATION COUNTY.			ADMINISTRATIVE COUNTY.		
10 year Periods	Death Rate (at all ages and from all causes)		5 year Periods.	Death Rate (at all ages and from all causes)	
1861-1870	..	21.7	1891-1895	..	16.6
1871-1880	..	21.4	1896-1900	..	16.2
1881-1890	..	19.6	1901-1905	..	14.2
1891-1900	..	17.7	1906-9	..	13.09

If the death-rate prevailing in the ten years 1861-1870 had continued during the year 1909, *there would have been 3,065 additional deaths, for that year alone, of persons now living.*

The Urban death-rate was **12·3**, and the Rural **13·3**. Thus for the seventh year in succession the “uncorrected” Rural death-rates have exceeded the Urban. A reference to Table XII. will show that this phenomenon is not confined to Nottinghamshire. The death-rate of the 143 “*Smaller Towns*” in England and Wales, as published by the Registrar-General, is lower by 0·6 per 1,000 than the death-rate of “England and Wales less the 219 towns”; that is, approximately, *Rural England*.

The higher death-rate of the Rural Districts is mainly owing, as stated in previous Reports, to the difference in age and sex constitution between the populations of the Urban and of the Rural districts. The Rural districts contain a larger proportion of males and of old persons, amongst whom the death-rates are higher.

By making the appropriate *corrections for the age and sex constitution* of the Urban and Rural districts, assuming that the proportions of each sex remain the same as at the Census of 1901 (and there is no information since that date), the gross rates are altered as follows :—

UNCORRECTED.				CORRECTED FOR AGE AND SEX, AND FOR INSTITUTION DEATHS.			
	Whole County.	Urban.	Rural.		Whole County	Urban.	Rural.
1901 ..	14·9	.. 15·4	.. 14·3	1901 ..	14·3	.. 15·5	.. 12·8
1902 ..	14·4	.. 14·8	.. 13·8	1902 ..	13·8	.. 14·6	.. 12·8
1903 ..	14·0	.. 13·8	.. 14·3	1903 ..	13·1	.. 13·5	.. 12·6
1904 ..	14·4	.. 14·2	.. 14·6	1904 ..	13·5	.. 14·0	.. 12·9
1905 ..	14·3	.. 13·9	.. 14·9	1905 ..	13·5	.. 13·7	.. 13·5
1906 ..	12·9	.. 12·9	.. 13·0	1906 ..	12·6	.. 13·2	.. 11·9
1907 ..	13·6	.. 13·3	.. 14·2	1907 ..	13·2	.. 13·7	.. 12·8
1908 ..	13·0	.. 12·8	.. 13·4	1908 ..	12·7	.. 13·2	.. 12·2
1909 ..	12·7	.. 12·3	.. 13·3	1909 ..	12·31	.. 12·6	.. 12·2

It is then seen that the Rural death-rate with the necessary corrections is always lower than the Urban ; and it will also be noticed that during the last nine years there has been a much smaller variation in the Rural death-rate than in the Urban.

The need for a correction of this kind to compensate for the different proportion of young and old persons, and of males and females in town and country, before any deductions of real value can be drawn from the rates of mortality is urged more and more strongly year by year by the Registrar-General, so much does the rate of mortality vary in the two sexes and at different age periods. The exodus of the young and vigorous, and especially of females from the Rural districts into the Urban is proceeding at an ever increasing rate ; and it is probable that the Census of 1911 will show that the factors for correction for Age and Sex distribution now being used are too low, and that we are already making too small an allowance for the change that is taking place.

It is further necessary to make additional corrections by the exclusion of the deaths of non-residents registered in the various districts, and the inclusion of the deaths of residents who have died in Asylums, Workhouses, and Hospitals outside the districts. The result is the *nett* death-rate in contradistinction to the *gross* death-rate.

The necessity of making these troublesome corrections is well illustrated in such a case as that of Bingham, in which district the County Asylum is situated. Of the 237 deaths registered in the Bingham Rural district, 64 took place in the Asylum and Workhouse, and of these only 16 belonged to the Bingham Rural district. But there were, in addition, four deaths of Bingham residents registered in Public Institutions beyond the district. Consequently 48 deaths were deducted from the 237, and 4 were added, thus reducing the Bingham death-rate from 16·7 to 13·6 per 1,000.

In order to facilitate these somewhat troublesome corrections, the County Medical Officer has again, through the kindness of the Officers concerned, obtained the lists of deaths of residents in the County from the County Asylum, the Nottingham General Hospital, and the Basford Workhouse, and distributed them to the Medical Officers of Health of the various Sanitary districts. In addition, the deaths in the Mansfield Hospitals and Workhouse, the Newark Hospital and Workhouse, the Retford Hospitals and Workhouse, the Sheffield General Hospital, and other Institutions, have been distributed by the Medical Officers concerned. The result is that the statistics are more accurate than in previous years, and the nett deaths are now 93 more than the total deaths registered in the County.

For many years the deaths of persons belonging to a District which took place in Institutions, such as Workhouses, Hospitals, and Asylums, outside a District were excluded from the death-rate of that District, and also from the death-rate of the District in which the Institution was situated. Consequently, the death-rates generally were *below* the actual truth. In the face of this fact the great fall in the death-rate during the last few years is of even more significance. I am glad to say that source of error has now been eliminated.

There must always remain a few deaths, especially among the better classes, which take place at the Sea-side, at Health Resorts, or in London, and which are not referred to their proper Districts; but they are too few to seriously affect the statistics.

The following table gives the death-rates of the different Districts corrected, as just mentioned, for the deaths in Public Institutions :—

NETT DEATH-RATE CORRECTED FOR DEATHS IN PUBLIC INSTITUTIONS FOR 1909, PER 1,000 OF THE POPULATION.

URBAN DISTRICTS.	RATE	RURAL DISTRICTS.	RATE
Newark	16·4	Blyth and Cuckney	17·1
Arnold	15·7	Southwell	15·8
Mansfield	14·0	East Retford	15·1
Worksop	13·6	Leake	14·5
Hucknall Torkard	13·4	Bingham	13·6
East Retford	13·2	Basford	13·1
Eastwood	12·8	Newark	12·5
Warsop	12·7	Stapleford	12·4
Mansfield Woodhouse	12·0	Misterton	12·1
Kirkby-in-Ashfield	11·8	Skegby	9·6
Sutton-in-Ashfield	11·8	Kingston and Ratcliffe	7·2
Huthwaite	11·0		
Beeston	10·1		
Carlton	9·7		
West Bridgford	6·2		
		Total Rural Districts	13·6
Total Urban Districts	12·5		

In order to eliminate as far as possible temporary and accidental variations, it is always useful to estimate the death-rate for a period of years; and it is usual to take 10 year periods where possible. Much valuable information is thus gained. For this purpose it is necessary to employ the gross or crude death-rates, because in the earlier portion of the past 10 years the corrections just described for deaths in Public Institutions, and for age and sex distribution were not made.

AVERAGE GROSS DEATH-RATE FOR THE TEN YEARS, 1899-1908, PER 1,000 OF THE POPULATION.

URBAN DISTRICTS.	RATE	RURAL DISTRICTS.	RATE
Worksop	16·5	Bingham	17·0
Huthwaite	16·4	Southwell	15·7
Newark	16·3	Misterton	14·4
Mansfield	16·2	Blyth and Cuckney	14·2
Mansfield Woodhouse	15·8	Leake	13·9
Sutton-in-Ashfield	15·7	East Retford	13·8
Hucknall Torkard	14·8	Basford	13·7
Warsop	14·8	Newark	13·5
Eastwood	14·3	Skegby	13·5
Arnold	14·2	Stapleford	13·2
East Retford	14·1	Kingston and Ratcliffe	10·1
Kirkby-in-Ashfield	13·1		
Beeston	11·6		
Carlton	11·3		
West Bridgford	7·7		
		Total Rural Districts	14·2
Total Urban Districts	14·5		

AVERAGE RATE FOR THE WHOLE COUNTY, 14·4.

Zymotic or Epidemic Death-Rate.—The death-rate from the principal Epidemic diseases, namely, Small-Pox, Scarlet Fever, Whooping Cough, Fever (comprising Typhus, Typhoid, and Continued), Diarrhœa or Epidemic Enteritis, Diphtheria, and Measles, was 0·94 per 1,000 for the whole County. The Urban rate was 1·37, and the Rural 0·65. This is the usual classification.

The deaths from Diarrhœa, and Epidemic Enteritis form a very large proportion of the Zymotic deaths; and, consequently, the Zymotic death-rate is mainly influenced by them. But, unfortunately, the deaths from disorders of the intestine, of which Diarrhœa is the chief symptom, are arbitrarily divided into classes, some of which, such as Epidemic or Zymotic Enteritis are included among the Zymotic deaths, and others such as Enteritis, Muco-Enteritis, and Gastro-Enteritis are excluded.

This arbitrary and uncertain method of classification makes the Zymotic death-rate of very little value as an index of the prevalence of epidemic diseases.

Infantile Death-Rate.—The rate for the whole County in 1909 was 106 per 1,000 births, being the lowest rate hitherto recorded for this County. For the Urban Districts the rate was 112, and for the Rural 93. The weather, which so largely influences the number of deaths from Infantile Diarrhœa, was favourable to a low mortality.

In order to trace back the rate of Infantile Mortality for a long period of years, it is necessary to have recourse to the Registration County, since the statistics of the Administrative County do not extend beyond the year 1891. The Registration County, as explained upon p. 5, includes the City of Nottingham, the Borough of Ilkeston, and other portions of Derbyshire, and the Infantile Mortality rate is, therefore, higher than the rate for Nottinghamshire alone.

INFANTILE MORTALITY.

Registration County.				Deaths under One Year per 1,000 Births.	
Years.					
1861—1870	170
1871—1880	164
1881—1890	154
Administrative County.					
Years.					
1891—1900	146
1901—1908	131
1909	106

But great and satisfactory as the drop in the Infantile Mortality rate has been, it still remains higher than it need be, and higher than the rate for "England and Wales less the 218 Towns." This portion of the kingdom, which corresponds with the Administrative County more closely than any other for which the Registrar-General publishes statistics, had an Infantile Mortality rate of only 98 in 1909, or eight per thousand less than this County.

It would appear from the following Tables that in this County, the mining and manufacturing districts, whether called Urban or Rural, have high infantile death-rates and the purely agricultural districts have low rates.

There is no need for this to continue. As shown by the Chief Medical Officer of the Local Government Board: "Local "Sanitary Authorities are largely responsible for the continuance of excessive infant mortality."

RATE OF INFANTILE MORTALITY FOR 1909, PER 1,000 BIRTHS.

URBAN DISTRICTS.	RATE.	RURAL DISTRICTS.	RATE.
Arnold	159	Misterton	159
Mansfield Woodhouse ..	147	Stapleford	125
Kirkby-in-Ashfield ..	131	Newark	117
Hucknall Torkard ..	137	Basford	100
Newark	126	East Retford	91
Sutton-in-Ashfield ..	111	Skegby	80
Eastwood	110	Southwell	80
Mansfield	108	Leake	62
Huthwaite	108	Bingham	57
Warsop	101	Blyth and Cuckney ..	45
Worksop	99	Kingston and Ratcliffe ..	0
Beeston	91	AVERAGE RURAL DISTRICTS	93
Carlton	89		
East Retford	84		
West Bridgford	43		
AVERAGE URBAN DISTRICTS	112		

Rate for the whole County 106

AVERAGE RATE OF INFANTILE MORTALITY FOR THE TEN YEARS, 1899-1908, PER 1,000 BIRTHS.

URBAN DISTRICTS.	RATE.	RURAL DISTRICTS.	RATE.
Huthwaite	189	Skegby	153
Sutton-in-Ashfield ..	168	Stapleford	136
Mansfield Woodhouse ..	162	Basford	135
Eastwood	160	Misterton	124
Worksop	160	Blyth and Cuckney ..	113
Arnold	158	Newark	105
Hucknall Torkard ..	157	Southwell	104
Kirkby-in-Ashfield ..	146	East Retford	101
Mansfield	145	Bingham	95
Warsop	145	Leake	65
Carlton	129	Kingston and Ratcliffe ..	38
Newark	125	AVERAGE RURAL DISTRICTS	120
East Retford	125		
Beeston	113		
West Bridgford	69		
AVERAGE URBAN DISTRICTS	146		

Average for whole County 136

The next Tables, giving the deaths of legitimate and of illegitimate children, shew that the lesser degree of care bestowed upon illegitimate children results in their dying at the rate of 191 per thousand, compared with 102 per thousand for legitimate children.

THE NUMBER OF DEATHS OF LEGITIMATE AND ILLEGITIMATE CHILDREN under one year of age, together with the number of Certified and Uncertified Deaths, for each District in the year 1909.

URBAN DISTRICTS.	Deaths under 1.	Legitimate.	Illegitimate.	Certified.	Uncertified.
Mansfield.. ..	120	110	10	118	2
Newark .. .	56	53	3	54	2
East Retford	31	27	4	25	6
Arnold	51	47	4	50	1
Beeston	26	26	..	25	1
Carlton	41	35	6	39	2
Eastwood.. ..	17	17	..	17	..
Hucknall Torkard	69	63	6	67	2
Huthwaite	21	17	4	21	..
Kirkby-in-Ashfield	76	73	3	73	3
Mansfield Woodhouse	62	57	5	62	..
Sutton-in-Ashfield	75	69	6	74	1
Warsop	18	18	..	18	..
West Bridgford	8	8	..	8	..
Worksop	61	55	6	56	5
TOTAL URBAN DISTRICTS	732	675	57	707	25
RURAL DISTRICTS.					
Basford	121	114	7	112	9
Bingham	18	15	3	18	..
Blyth and Cuckney	5	5	..	4	1
East Retford	30	28	2	29	1
Leake	4	4	..	4	..
Misterton	15	13	2	13	2
Newark	24	22	2	24	..
Skegby	17	16	1	17	..
Southwell	32	31	1	31	1
Stapleford	37	34	3	36	1
Kingston and Ratcliffe .. ..	..	..	..	..	..
TOTAL RURAL DISTRICTS	303	282	21	288	15
TOTAL WHOLE COUNTY..	1,035	957	78	995	40

The experience that the mortality of illegitimate children is *nearly double* that of legitimate children is general throughout England, and is one of the many evil results of illegitimacy and its antecedent immorality.

The small number of uncertified deaths, namely 40, among the 1,035 deaths of infants under the age of one year, shews that inability to secure the services of a fully qualified medical practitioner during some part of the child's fatal illness has very little to do with the number of infantile deaths. Whether the doctor is called in soon enough and whether the advice of unqualified persons is followed until too late, the available statistics do not reveal.

The remarkable inequalities of the Infantile Mortality Rate in Urban Districts of about the same population shew there are local conditions which influence the rate; and most, if not all, of these are removable. The conditions referred to are enumerated in the extracts from Dr. Newsholme's Report, on p. 25. The following comments are based on the rates for 1909.

Arnold and Mansfield Woodhouse, each having a population of about 10,000, have the excessive Infantile Mortality rates of 159 and 147 respectively; while Beeston with a population of 11,286, Carlton with a population of 15,813, and East Retford with a population of 13,689, have Infantile Mortality rates of only 91, 89, and 84, respectively. But Retford, with a rate little more than half that of Arnold, has employed a Health Visitor for two years, and has adopted the Notification of Births Act.

The Rural District of Misterton with a population of only 4,234, has a higher Infantile Mortality rate than any Urban District except Arnold !

Mansfield, which in 1908 had an Infantile Mortality rate of 137, adopted the Notification of Births Act, appointed a lady Health Visitor, and now has a rate of 108.

The causes of the diminution which has already taken place are not far to seek, and may be found in the increased public interest, stimulated by the National Conferences of 1906 and 1908, in the increased number of District Nurses, and in the co-operation of many of the Midwives in distributing to young mothers the leaflet on infant feeding, drawn up by the County Medical Officer.

But there is urgent need for much more to be done.

A high rate of Infantile Mortality is not an inevitable accompaniment of a high birth rate, of comparative poverty, or of density of population. This is conclusively shewn by the figures for the year 1906, contained in the 42nd Annual Report of the Governors of the Peabody Donation Fund, relating to the health condition of the **19,737 residents** of the buildings owned by the Trust.

“ It is pointed out in the report that the birth-rate among the residents was equal to 30·5 per 1,000, exceeding the general London rate by 3·8; that the death-rate did not exceed 12·5 per 1000, and was 3·2 below the mean rate in London; and that *the rate of infant mortality was only 84·9 per 1,000 births, against 133·0 in the whole of London.* It appears that the buildings occupy nearly 33 acres in various parts of the metropolis, and that the mean density of population on this area is equal to 603 persons per acre, or nearly ten times the mean density throughout London.”

The Infantile Mortality Rate of these Peabody Buildings in London was lower than the rate for any Urban District in this County for the same year, or for 1909, except East Retford and West Bridgford; and lower than any Rural District in 1906, except Southwell, Leake and Kingston. In 1909 there were 6 Rural Districts with lower rates than the one for the Peabody Buildings in 1906.

A large, though varying, proportion of the infants' deaths is constantly attributed to prematurity and to debility from birth. To remedy these conditions, care and attention are required by the mother *during pregnancy*; the chief among these being *rest from factory work after the fifth month of pregnancy, suitable and abundant diet*—but not overfeeding—and *abstinence from alcohol*.

Another considerable proportion of infants' deaths may be attributed primarily to the want of **breast feeding**.

When recourse is had, of necessity, to artificial feeding, the first thing to recognise is that *the proper methods are not revealed to the poor mother by instinct, but require to be taught and to be learned.*

Several thousand leaflets on Infant Feeding have been distributed gratuitously, chiefly through the instrumentality of the certified midwives, who have attended about half the births in the County; but the limits of the utility of leaflets are soon reached. *There can be little question that the most efficient remedy is the employment of Health Visitors*, which will be necessary wherever the Notification of Births Act is adopted.

The adoption of the Notification of Births Act in East Retford and in Mansfield appears to have worked smoothly, and to be reducing the infantile mortality as well as benefiting the mothers. It has now been adopted in Sutton-in-Ashfield, and a Health Visitor appointed; but too late in the year to greatly influence the mortality rate for 1909. It has also been adopted in Hucknall, to come into operation in March, 1910.

Similar action is urgently needed in Arnold, Kirkby-in-Ashfield, and Mansfield Woodhouse.

In Worksop, even without the adoption of the Notification of Births Act, the Ladies' Health Association have appointed a Lady Health Visitor, who is doing most useful work. The fall of the Infantile Mortality rate from 113 in 1908 to 99 in 1909, must be in some measure attributed to this cause.

It would be very much in the public interest, and tend greatly to reduce the existing useless loss of life, if the Notification of Births Act were adopted, with the necessary employment of Health Visitors, *in all districts having a higher Infantile Mortality rate than that shewn by the Registrar-General to exist in "England and Wales, less the 218 towns," which in the year 1909 was 98.*

Finally, I would urge everyone interested in lowering infantile mortality and preventing the degeneration of the people of this country, not only to read, but to study carefully, the remarkably able Report of Dr. Newsholme, from which the following extracts are taken. It is there clearly shewn that excessive mortality in infancy implies *excessive mortality in later life* up to at least the age of 20 years; and implies *a high prevalence of the conditions which determine national inferiority.*

This takes away the ground for those callous excuses urged by overcareful Guardians of the Rates against any expenditure on safeguarding infant life. Excessive infantile mortality does not remove only the "unfit." It removes many of the "fit," and leaves many of the "unfit," who will never earn their own living. The causes of it entail an excessive expenditure upon sickness and illhealth among the survivors up to adult life. There is little evidence to shew that it exercises any beneficent process of "weeding out."

The nine Recommendations at the end of Dr. Newsholme's Report are most valuable, and should be carried into effect.

In a Supplement to the 39th Annual Report of the Local Government Board, published in July, 1910, the Chief Medical Officer (Dr. Newsholme) has prepared a Special Report upon **Infant and Child Mortality**, which is exceedingly valuable, and which clears up some doubtful points especially regarding the relationship of Infant Mortality to mortality at higher ages. The following extracts are taken from it, and some of them state very clearly that it is the neglect by Local Sanitary Authorities of their plain duties in connection with privies, scavenging, and the paving of back yards which is largely responsible for the continuance of excessive infant mortality.

“To the subject of this Report more work has been devoted by the Board and by Sanitary Authorities throughout the country during the last four years than at any previous period. There has been a widespread awakening to the national importance of child mortality, and a concentration of efforts to diminish it such as has never previously occurred.”

“The public conscience has been aroused, and education, moral as well as mental, has rapidly progressed.”

“It is significant that, corresponding with this steadily increasing effort of Sanitary Authorities, there has been a decline, and an increasing decline, of infant mortality which is unexampled.”

“The relationship of infant mortality to mortality at higher ages is discussed; and it is brought out that the continuance of a high infant mortality in a given district, involves the continuance of a centre of national weakness.”

“Mortality in the first five years of life is very unequally distributed, the death rate at these ages in some counties being twice as high as in others. Taking extreme instances, the infant death rate is twice as high, and the death rate for the next four years of life is $2\frac{1}{4}$ times as high, in Glamorgan, Durham, Northumberland, and Monmouth, as in Oxford, Hereford, Berkshire, and Wiltshire.”

“*Excessive mortality in infancy implies excessive mortality in later life.* This is shown in the statistics of the different counties and sub-divisions of counties in the year 1908, for the ages 0-1, and 1-5. It is also shown for the first five years of life in the experience of England and Wales over a long series of years. *English statistics show that counties having excessive infant death rates also on the whole have excessive death rates throughout the first twenty years of life,* and that counties having low infant death rates have low death rates throughout the first twenty years of life, though the superiority is not so great at the latter as at the earlier ages.”

"It is hoped that the County Medical Officers of Health, now being generally appointed under the terms of the Housing and Town Planning Act, as well as District Medical Officers of Health, will find this Report a useful starting point for intensive investigation of the causes of excessive child and especially excessive infant mortality in their individual counties and districts. I use the word *excessive* advisedly, for every county and most districts whose experience when summarised as a whole show a low infant mortality, have within their borders areas in which infant mortality is excessive. Hence, although in this Report certain rural counties have been employed as standards of merit, these standards are no more than relatively meritorious. The same remark applies to towns which, as a whole, have a low infant death rate."

"The subject of child mortality is of national importance. As shown by the statement below, one out of three deaths at all ages occurs under five years of age, one out of five during infancy, and one out of nine total deaths at all ages occurs under three months of age."

"Infant mortality is the most sensitive index we possess of social welfare and of sanitary administration, especially under urban conditions."

"A heavy infant mortality implies a heavier death rate up to five years of age; and right up to adult life the districts suffering from a heavy child mortality, have higher death rates than the districts whose infant mortality is low."

"A careful study of the death rate in England and Wales during the last fifty years at each of the first five years of life, leaves it doubtful whether any appreciably greater selection or 'weeding out' is exercised by a heavier than by a lighter infant mortality. Any such effect, if it exists, is concealed behind the overwhelming influence exerted by the evil environment to which children are exposed in districts of high infant mortality. It is strictly correct, therefore, to say, that a high infant mortality implies a high prevalence of the conditions which determine national inferiority."

"A study of the causes of death which act in excess during infancy shows that this influence of the chief manufacturing and mining counties in lowering the standard of national efficiency need not continue."

"There is no essential causal relation between a high birth rate and a high rate of infant mortality."

"The counties which have a high death rate during the second half of infancy, usually have also a high death rate in the first month of life."

“There are strong reasons for concluding that much of this mortality in the first month of life is preventable, if appropriate action is taken.”

“Early motherhood is associated to a minor extent with a relatively high infant mortality.”

“Infant mortality is higher among the poor than among the well-to-do, although natural feeding of infants is probably more general among the former.”

“Infant mortality is always highest in crowded centres of population; but a high infant mortality can, subject to the conditions stated at the foot of page 62, be avoided even under conditions of dense aggregation of population.”*

“The chief means for a low infant mortality are efficient domestic and municipal sanitation, good housing, and intelligent and painstaking ‘mothering.’”

“Infant mortality is highest in those counties where, under urban conditions of life, filthy privies are permitted, where scavenging is neglected, and where the streets and yards are to a large extent not ‘made up’ or paved.”

“Thus Local Sanitary Authorities are largely responsible for the continuance of excessive infant mortality, and until they fulfil satisfactorily their elementary tasks, efforts in the direction of domestic hygiene can only be partially successful.”

“Breast feeding is the greatest natural protection against infant mortality. It is not a complete protection, in part because breast-fed infants are often exposed to excessive changes of temperature in air-polluted rooms; and in part because mothers frequently give their breast-fed infants other food of an unsuitable character.”

RECOMMENDATIONS.

1. *“The statistics given in this Report emphasise the importance of more detailed investigation of all deaths occurring in infancy, as a guide to administrative action. This is already done in some districts; in other districts such deaths are ignored unless due to infectious diseases.”*

2. *“In each district an effort should be made to ascertain the number of still-births, and to investigate where practicable the circumstances connected with these, and with the deaths of infants in the first month of life. The administration of the Midwives Act and of the Notification of Births Act offers many opportunities for inquiry, the results of which may be made of immediate value in public health administration.”*

* In the original Report.

3. "Inquiries under the last head will throw light on the character of attendance available for women during childbirth, and on the availability of additional help when required. So far no exact information is obtainable as to the probable relation between the conditions under which childbirth occurs and the number of deaths in the first week of life."

4. "The evidence already available points to the conclusion that infant mortality can be lowered by giving adequate training and help to midwives. This especially applies to the saving of infant life at and soon after birth. It has also to be remembered that the midwife's influence with the mother, whom she has helped in her need, is very great; and it is her advice as to management, and particularly as to the feeding of the infant, which is most likely to be followed."

5. "Although this is so, experience is already showing the value of the work being done by Health Visitors, who, under present conditions, form an almost indispensable aid in influencing mothers in the management of their infants."

6. "The adoption of the Notification of Births Act is a necessary preliminary to the giving of such aid promptly, and I hope that ere long this Act will be generally adopted in the country districts as well as in large towns."

7. "The efficient administration of the Midwives Act, the adoption of the Notification of Births Act, and of additional arrangements for giving instruction in infant hygiene, are urgently called for in the counties in which infant mortality is excessive."

8. "The measures indicated above furnish an incomplete remedy in the counties in which insanitary conditions are rife. Sanitary Authorities in compactly populated districts should decide to remove all dry closets if a water-carriage system is practicable, to introduce and maintain efficient scavenging, and to provide for the satisfactory paving of streets and yards when required. Doubtless these measures will be expensive, but they are much more economical than the sickness and impaired efficiency of the population which are their alternative; and no Sanitary Authority can justify neglect in undertaking these elementary tasks."

9. "'Sanitary Authorities,' in the words of Sir John Simon, the first Medical Officer of this Board, are the 'appointed Guardians of masses of human beings whose lives are at stake in the business.'"

The following extracts from the Annual Reports of the Medical Officers of Health of the different districts shew what is already being done, and also in what directions they consider improvement necessary.

Dr. Wills (Mansfield) writes:—"I am glad to report that the action you took in adopting the Notification of Births Act and appointing a Lady Inspector has been followed by a reduction of infant mortality, which, during 1909, was lower than in any previous year, and it was 38 per 1,000 lower than the average of the previous ten years."

"Miss Sharp, the Lady Inspector, informs me that a great deal of improvement in the home has followed her visits. She has in nearly every case been cordially received by the mothers, and asked to repeat her visit. Probably this partly results from the kindly sympathetic manner of the Lady Inspector herself."

Dr. Manners-Smith (East Retford Urban) writes:—"In view of the general rate of Infant Mortality throughout the County, the local Death Rate in respect of these Infants, 84.25 per 1,000 Births registered, may be considered satisfactory."

"It is only fair to regard this marked improvement as the result of the excellent work done by the Ladies' Health Association, and their energetic Health Visitor."

Dr. Francis (Arnold) writes:—"I understand, and can quite believe, that the expense of a Health Visitor cannot at present be borne by the District. The only alternative, as we mentioned at the meeting, is to combine with some neighbouring community and share expenses, and as we should not require a whole time Visitor this arrangement would suit us well."

Dr. Jones (Hucknall Torkard) writes:—"In connection with this matter I have reason to hope that the Notification of Births Act, which the Council have adopted at my advice, accompanied by the appointment of a Lady Health Visitor, will have a very beneficial effect, not only upon the infant mortality, but also as regards the general welfare of mothers and children alike. The Act will come into operation on March 14th, 1910."

Dr. Irvine (Huthwaite) writes:—"I would strongly urge the adoption of 'The Notification of Births Act,' and the employment of a Health Visitor. It is being realized more and more every year that no matter how well designed the sanitary surroundings of an individual may be, they will be

“of little avail unless that person is instructed in and carries
 “into practice hygienic habits. Our high death-rate has been
 “chiefly due to the mortality among infants and young
 “children, and active measures must be taken to educate the
 “mothers if that mortality is to be reduced. Many of these
 “deaths in infants are to a great extent preventable, and the
 “only practical suggestion that is likely to be of any use in
 “this direction is the appointment of a Health Visitor, who
 “would give instructions on ventilation, clothing, etc., and
 “especially advice on feeding, which is often much
 “needed.”

Dr. Neshitt (Sutton-in-Ashfield) writes:—“With the
 “object of reducing the Infant Death Rate, which in Sutton
 “has, until this year, shown an unenviable pre-eminence, an
 “important step has been taken by your Council by the adop-
 “tion of ‘The Notification of Births Act,’ and the appoint-
 “ment of a Health Visitor.”

“Some time ago I procured a supply of leaflets on the
 “feeding and care of infants, and these have been given by
 “the local Registrar to each person having the custody of the
 “child when registering its birth. This may possibly be one
 “factor in the reduction of Infant Mortality, which is so
 “notable a feature of the past year.”

Dr. Garrett (Worksop) writes:—“Very good work has
 “been carried on in the town by the Ladies’ Health Associa-
 “tion, which was established in 1908 with the object of re-
 “ducing infantile mortality. Some idea of the scope of the
 “work will be gathered from the following extract from the
 “report of the year’s work:

“Upwards of 5,000 visits have been paid during the
 “year, and there are many evidences that the ministrations of
 “the Health Visitor are acceptable to, and much valued by,
 “the mothers. When it is remembered how many young
 “women enter upon the duties of motherhood in ignorance of
 “the ordinary laws of health, and without any clear know-
 “ledge concerning the feeding and clothing of infants, it must
 “be granted that the advice of a kind, capable and experienced
 “woman, cannot fail to be of the greatest service. The
 “Health Visitor encourages the mothers to nurse their babies
 “wherever this is possible. She advises also as to supple-
 “menting breast feeding with meals of diluted milk where this
 “is necessary, and endeavours generally to combat the errors,
 “which have been handed down for generations, concerning
 “the feeding, clothing, and general hygiene of infants and
 “mothers.”

“At present the Nurse depends on voluntary information received from midwives and other sources as to the houses where her services are required, and this to a certain extent handicaps her in the work, for, to obtain the best results, the infants ought to come under her care as early as possible.”

“With the object of assisting the work of this voluntary Association in the district, I think the time has come when the Council ought to adopt ‘The Notification of Births Act.’ With this in force the Nurse would at once have at command the information she requires, and more benefit would be derived from her efforts.”

Dr. Maekenzie (Kirkby-in-Ashfield) writes:—“A study of the causes of infant deaths shows that the diminished death rate this year is mostly due to the absence of deaths from Summer Diarrhoea. . . . I have so often previously brought to your notice the necessity for a children’s nurse, coupled, of course, with the adoption of ‘The Notification of Births Act, 1907,’ that I cannot do more than quote from the letter of the Local Government Board, dated August 25th, 1909. After remarking on the infant death rate of the locality, the Board writes: ‘A local authority proposing to adopt the Act (*i.e.*, “The Notification of Births Act, 1907,”) should make arrangements, either directly, or by co-operation with a voluntary agency, for tendering personal advice to mothers by a female health visitor or visitors, or by other competent women, acting under the supervision of the Medical Officer of Health, in those cases in which that officer may consider such visits to mothers desirable.’ This letter led to several conferences between the local authority and the local District Nursing Association, but, unfortunately, no agreement was arrived at, though a working scheme seems to me quite feasible, and I earnestly hope that during the coming year negotiations may be carried to a successful issue.”

“One might be permitted to express after nearly twenty years’ practice in a district like this his impressions of certain characteristics of the people in regard to the safeguarding of their own and children’s health. The working man is a great expert, and possesses a vast amount of sound practical knowledge as to the rearing of certain domestic animals, particularly canaries; they know how to feed them, and how to ventilate and protect from draught the rooms of these pets; then again pigeons, rabbits, and dogs receive the most devoted and enlightened attention; but change the conversation to the clothing and feeding of their own offspring, and the sterility of their information is at once apparent.”

Midwives Act, 1902.

This Act, "to secure the better training of Midwives and to regulate their practice," came into operation, except as otherwise provided, on April 1st, 1903. *The final portion came into operation on April 1st, 1910.*

It will be easily understood that an Act of this kind was required, when it is stated that in 1909 forty-two per cent. of all the births in this county were attended by certified Midwives without a doctor. In addition, there are a large number of births, of which no record is available, attended by uncertified Midwives; and a very large number attended by certified and uncertified Midwives under the direction of a doctor, when the cases are not entered in the Midwives' registers. It is probable, therefore, that women accustomed to act as Midwives, have been in some way associated with the very large majority of all births in this county. In the last Report of the Registrar-General, for the year 1908, it is shewn that 3,361 women died from causes associated with pregnancy or child-bearing in England and Wales; and of these, 1,395 deaths were due to "Puerperal Fever" in one or other of its forms, and were, therefore, preventable. It cannot be doubted, too, that many of the other deaths might have been prevented by greater skill and care.

In this county, ten deaths were certified as due to some form of Puerperal Fever (but there is reason to think that number does not include all the cases); and, in addition, twenty-six deaths were certified as due to other diseases and accidents of parturition.

The local supervising authority for the County of Notts. is the Public Health and Housing Committee.

The operation of Section 2 of the Midwives Act, which made provision for existing Midwives being placed on the Roll, expired on March 31st, 1905.

Early in June, 1910, in consequence of the reported dearth of Midwives in certain parts of the country, the Central Midwives Board made a new Rule, B. 2, as follows:—

"A candidate who has failed to claim to be certified under "the Midwives Act within the time limited by Section 2 of "the Act, and who satisfies the Central Midwives Board that, "but for her failure so to claim, she would have been entitled "to be certified under the Act, may be admitted by the Central "Midwives Board to the Roll of Midwives upon such con- "ditions as the Central Midwives Board shall think fit, and "shall receive a certificate in the form set out in the Schedule,

“and her name shall be entered by the Secretary in the Roll of Midwives (Schedule, Form ii., B.), provided always that no such candidates shall be admitted to the Roll of Midwives after September 30th, 1910.”

The Central Midwives Board further state, “When an application in due form reaches this office, inquiries are made of the Executive Officer of the Local Supervising Authority as to the character and competence of the applicant, and the needs of the neighbourhood in which she resides.” . . .

. . . “The Board trusts that the Local Supervising Authorities may be able, through their Inspectors of Midwives, to make known to intending applicants that in their own interests they should not delay in sending in their applications.”

This has involved a good deal of extra work on the part of the Inspector of Midwives who has, as far as possible, visited all the uncertified Midwives who are practising in any capacity in the County. They amount to at least 220, and additions are constantly being made to the list. To each of these the following notice was sent by post at the end of March, 1910.

“On April 1st, 1910, Sub-Section 2 of Section 1 of the Midwives Act comes into operation, and after that date no woman may habitually and for gain attend women in child-birth, otherwise than under the direction of a qualified Medical Practitioner, unless she be certified under the Midwives Act. Any woman so acting without being certified shall be liable on summary conviction to a fine not exceeding Ten Pounds.”

For further information as to opportunities of training and obtaining a Certificate, apply to—

DR. HANDFORD,

County Medical Officer,

Public Health Department,

The Shire Hall,

March, 1910.

Nottingham.

The number of applications under the New Rule and the decisions of the Central Midwives Board are not yet completed and will be dealt with in next year's Report.

In March, 1910, a "List of Certified Midwives residing in "the Administrative County of Notts., in the year 1909," was prepared, arranged under the following headings :—

1. A List of Certified Midwives, in alphabetical order, who notified their intention to practise in the County in the year 1909.
These are the *only* women entitled to practise as Midwives.
2. A List of Certified Midwives practising as *Monthly Nurses*; but *not* entitled to practise as Midwives without notification.
3. A List of Certified Midwives practising as *Ordinary Nurses*; but *not* entitled to practise as Midwives without notification.
4. A List of persons possessing the Certificate of the Central Midwives Board and residing in the County, but *not practising at all*.
5. A List of Midwives in this County whose names appear on the Midwives Roll for 1909, arranged according to *Localities*. Only those marked with a * have notified their intention to practise and are entitled to practise as Midwives.

This List was sent to every Certified Midwife and to every qualified Medical Practitioner in the County. Appended to the list were extracts from the Midwives Act and the following information :—

The lists which follow will enable both the members of the Medical Profession and also the general public to ascertain the names and addresses of the women who are entitled by law to act as Midwives in this County.

It should be remembered that neither the possession of the Certificate of the Central Midwives Board nor any other Certificate in Midwifery entitles a woman to practise without first complying with Section 10 of the Midwives Act as to Notification.

After April 1st, 1910, when no uncertified woman may lawfully practise as a Midwife, it is possible many uncertified women will continue to practise "*under the direction of a qualified Medical Practitioner*." The Midwives Act does not define the extent of such "direction"; but it is well that the Report of the Departmental Committee of the Privy Council upon this matter should be widely known, especially as regards the disciplinary powers of the General Medical Council.

The Report states :—

“33. The Committee are alive to the fact, which was
 “pointed out by several medical witnesses, that the
 “words in Section 1 (2) ‘otherwise than under the
 “direction of a Qualified Medical Practitioner,’ might be
 “used in unscrupulous hands to foster the objectionable
 “practice of ‘*covering*’ the action of unqualified women
 “by the assumption of a purely nominal responsibility
 “on the part of the doctor; but they do not believe
 “that such practices could become common without
 “attracting public attention, and bringing the doctor
 “concerned within the disciplinary powers of the General
 “Medical Council, who, they are advised, would treat
 “cases of the kind as examples of ‘infamous conduct in
 “a professional respect,’ in the same way as they at
 “present deal with the employment of unqualified
 “assistants.”

It is probable that difficulties will still arise and the Midwives Act will continue to be evaded, until a test case has been decided in the High Court, showing what constitutes practising “under the direction of a qualified Medical Practitioner.”

The first complete Midwives Roll was published by the Central Midwives Board in July, 1905, and contained 22,308 names. The sixth Roll was published at the end of June, 1910, and contains 29,159 names.

In the year, “since the publication of the 1909 Roll, “2,230 names have been added to the Roll, but these represent “only about 1,260 *practising* Midwives. The names of 68 “women have been removed on their own application, while “42 have been removed under the penal powers of the Board.”

In this county ten charges of negligence and misconduct have been investigated by the Local Supervising Authority, during the years 1906-9 inclusive, under the powers conferred upon them by Section 8 (2) of the Midwives Act; and in nine instances a *prima facie* case has been found, and the Midwives have been reported to the Central Midwives Board. The names of eight of these women have been removed from the Midwives Roll by the Central Midwives Board, and the ninth was “severely censured.” The latter Midwife was suspended from practice in 1908, and a fresh charge of negligence was contemplated; but she surrendered her Certificate on the ground of “ill-health,” and her name was removed from the Roll, thus obviating any further proceedings. She is now practising “under the direction of qualified Medical Practitioners,” and does a good deal of work, but is exempt from the supervision of the Local Supervising Authority !

The Midwives Bill of 1910, which is founded upon the Report of the Departmental Committee appointed to consider the working of the Midwives Act, 1902, was introduced in the House of Lords, and has passed its third reading. It has yet to be considered by the House of Commons. If passed into law it should in many ways facilitate the administration of the Act of 1902.

One woman, who had been previously removed from the Midwives Roll by the Central Midwives Board for misconduct, not only continued to practise, but described herself as a Midwife and exhibited her Certificate, which she had failed to surrender to the Central Midwives Board for cancellation. In August, 1909, by the direction of the Local Supervising Authority, the woman was prosecuted under Section 1 of the Midwives Act, of 1902, and convicted, a fine of two guineas and costs being imposed.

During the year under review (1909), I regret to say the other women in this county who had been removed from the Midwives Roll by the Central Midwives Board for "mal-practice, negligence, or misconduct" continued to practise as extensively as before.

In the course of the year 1909 under the powers conferred upon the Local Supervising Authority by Section 8 (3) of the Midwives Act, only two Midwives were suspended from practice, for periods varying from a few days to a month, because they had contravened the Rules laid down by the Central Midwives Board, for the purpose of preventing the spread of infection.

Several other Midwives ceased practice for two or three days for the purpose of carrying out disinfection under the supervision of the Inspector of Midwives, after being in attendance upon cases of Puerperal Fever, or other cases of a septic nature capable of spreading infection. In no instance, so far as is known, has a Midwife carried infection to another patient after she has thoroughly disinfected herself, clothing, and appliances to the satisfaction of the Local Supervising Authority.

The number of Midwives who, in compliance with Section 10 of the Midwives Act, have notified to the Local Supervision Authority (viz., the Public Health and Housing Committee of the County Council) their intention to practise in this County each year is shown in the following table:—

Year.	Number of Midwives.					
1903	40
1904	93
1905	184
1906	181
1907	183
1908	177
1909	195

In the year 1909, about 4,166 confinements out of 9,740 were attended by certified Midwives on their own responsibility, without a doctor. That is 42 per cent. This number does not include the confinements attended by uncertified Midwives on their own account; nor the cases attended by certified Midwives "under the direction of a doctor." These latter amount to a very large number. Neither does it include the cases where a doctor is engaged, but the greater part of the labour, and often the whole, is conducted by an uncertified woman before the doctor's arrival. These women are under no public control or inspection. There is reason to think some of the cases of Puerperal Fever occurring when a doctor is engaged are due to their inefficiency. It is clear, therefore, that Midwives, certified and uncertified, are associated with a very large majority of the births; and, consequently, their cleanliness, general skill, and conduct, cannot be a matter of indifference to the public health.

The whole of the 195 Midwives who notified their intention to practise in this County in 1909 have been visited by the Inspector of Midwives, who has inspected their registers, bags of appliances, &c., and investigated their mode of practice, as required by the Rules of the Central Midwives Board. The majority have been inspected once a quarter, and a few, who require special attention, at more frequent intervals. Most of the trained Midwives working under Committees are only inspected every six months.

A leaflet on Infant Feeding is supplied gratuitously to Midwives, for use in their practice.

A large number of the Midwives inspected carry out the Rules to the best of their ability, and show a very distinct improvement in their mode of practice and in general cleanliness. A considerable minority give a very great amount of trouble by evading the Rules, by want of cleanliness, and general unsatisfactory conduct. The most serious failing of the untrained midwives is intemperance. It is seldom cured; and at the same time it is very difficult to obtain sufficient evidence to ensure the removal of their names from the Roll. The practice, still sadly too common, of giving spirits to Midwives during their attendance at a confinement is most pernicious.

During the year 1909, eight cases of Puerperal Fever of varying degrees of severity occurring in the practice of certified Midwives came to the notice of the Local Supervising Authority, and further details are given on pages 52-54. There were, in addition, 4 other septic cases not notified as Puerperal Fever. This total of 12 compares very favourably with the 36 cases last year, and indicates that four years of inspection and teaching are bearing good fruit. Each case was investigated

by the Inspector of Midwives and the County Medical Officer, and arrangements made for efficient disinfection. It is most satisfactory to be able to state that the disinfection proved to be efficient, and that in no case has a Midwife, after disinfection to the satisfaction of the Local Supervising Authority, carried infection to a second case.

The following table shows the number of notices, &c., received from the midwives, in accordance with the Rules of the Central Midwives Board. Forty-nine notices (compared with 66 last year) were not sent at the proper time, but were brought by the Inspector as a result of her visits of inspection. This provides some measure of the need of constant inspection.

Year	1904	1905	1906	1907	1908	1909
Records of sending for Medical help	44	177	282	282	340	321
Notices of still-birth ...	3	68	123	100	101	106
Notices of death of child before arrival of doctor	0	12	19	15	21	36
Notices of death of mother before arrival of doctor	0	0	0	0	1	0
Changes of address notified to the Central Midwives Board	0	51	35	45	55	54
Changes of name notified to the Central Midwives Board	0	0	0	5	4	5
Deaths of Midwives notified to the Central Midwives Board ...	...	...	...	...	3	3
	47	308	459	447	525	525

The County of Notts. was one of the very first to recognise that the duty of inspecting Midwives is essentially a woman's work. But with nearly 200 Midwives to inspect, spread over more than 800 square miles, the work is arduous as well as responsible, especially in winter when the roads are bad.

In the short period since the Midwives Act came into operation, four different Inspectors have been employed. For the first year (1904-5) Miss Ross, County Inspector of the Notts. Nursing Federation, who has recently been promoted to a more important post, did the work in combination with her other duties. There was, however, far more work than could be done in this way; and in 1905 Miss Lessey was appointed to give her whole time. This proved thoroughly satisfactory and much progress was made. Unfortunately, on the last day of December, 1908, Miss Lessey slipped on the pavement and broke her thigh.

On February 6th, 1909, Miss Simmons was appointed deputy Inspector, by the Local Supervising Authority, and did the work for six months until Miss Lessey was able to return to duty in the beginning of August. From the middle of October, 1909, till the beginning of January, 1910, Miss Lessey was again laid aside by illness and Miss Simmons again did the work, at Miss Lessey's expense. Miss Lessey resumed her work in January, 1910, and continued until March 12th, when she became permanently incapacitated by increasing trouble with the injured hip. From this date until May 23rd, 1910, the regular home inspection of the Midwives was in abeyance, and it was only possible to provide for emergencies. In April, 1910, Miss Steen, who had previously been Inspector of Midwives in the City of Nottingham, was appointed Inspector of Midwives, and she took up her duties on May 23rd. There were, naturally, many arrears, but these are being rapidly overtaken.

Miss Lessey claimed compensation under the Workman's Compensation Act, and in July, 1910, in the County Court at Nottingham, she was awarded One Pound per week during the continuance of incapacity to work.

The recommendation of the Departmental Committee (which has been incorporated in the Midwives Bill, now awaiting the consideration of the House of Commons) to the effect that "all forms and books which certified Midwives are required to fill up or use, shall be supplied to them gratis by the Local Supervising Authority," was adopted by the Notts. Local Supervising Authority in January, 1910, and the necessary books of forms and registers were distributed, gratis, to the Midwives in March, 1910.

ISOLATION HOSPITALS.

There is little fresh to record for the year 1909. The districts which have provided Isolation Hospitals, or have made arrangements with adjoining districts, are indicated in Tables III. and IV. in the Appendix, which also show the number of beds, and the diseases which can be isolated at the same time.

In the matter of the provision of Isolation Hospitals, this County for a long time past has been mainly "marking time." It is to be hoped a rude awakening may not come!

The Hospitals already provided have been doing good work during the year. It is, indeed, difficult for those who are familiar with the work that is being done to appreciate the position of those who claim that Isolation Hospitals are of no value in diminishing the amount of infectious disease. It is

true there is much difference of opinion in the case of Scarlet Fever, but the more experienced opinion is in favour of the utility of properly equipped and properly managed hospitals.

That well managed Isolation Hospitals are a very great *convenience*, the frequent demand for them on the part of the people affected is sufficient evidence. But the cost must always be considerable, especially in the absence of *combination to form large areas*. And the dislike to combination is at present insuperable. Yet it is common knowledge that in all departments of manufacture and commerce, combination is the key to success, both as regards efficiency and economy of production. Within strictly defined limits it is equally true of Hospitals.

The following extracts from the Reports of the Medical Officers of Health of several of the districts in the County indicate the present position :—

Dr. Wills (Newark Urban) writes :—“The Hospital on Barnby Road has done excellent work during the past year.”

“The accommodation it affords at present consists of three wards containing a total cubic space of 16,000 cubic feet. There are three bedrooms in a detached building for two nurses and the caretaker and his wife.”

“The outbuildings consist of temporary bathroom, pantry, scullery, and coal house. The kitchen between the wards is the only sitting room available for the meals of the staff.”

“The tent has been very useful for convalescents.”

“The new disinfecting station and laundry are most valuable additions, not only to the Hospital, but to Newark, since they afford means of disinfection for all infected articles of bedding which before the disinfecting station was erected could not be satisfactorily dealt with. The station and laundry block are built so that they may serve for the present Hospital, the proposed new Hospital, the town, and the Small Pox huts.”

“The huts for Small Pox are placed in the same field as the other Hospital buildings, but separate, as the area of your 17 acre site leaves space for separate buildings.”

“Your attention has been occupied in planning an administration cottage block which shall suffice for the present and future Hospital which it is proposed to build for Scarlet Fever.”

“It seems very desirable that you should build a Scarlet Fever block on your present site, so that the management of the whole could be better arranged with respect to water supply, disinfection, telephonic communication, and caretakers.”

Dr. Franeis (Arnold) writes :—"The arrangement with the Basford Rural District Council for the use of the Sanatorium continues to work well. I have only found it necessary to remove three cases. This may seem a small number, but, as I said in my last Report, only those cases would be sent which could not possibly be isolated at home, and I have found most people quite willing to put themselves to a little inconvenience to save the expense; on the other hand, I have been asked several times to send cases away, and I have refused because there was no necessity, as the request was only to save themselves the trouble of nursing the invalid."

Dr. Houfton (Mansfield Woodhouse) writes :—"Arrangements are made with the Mansfield Corporation to admit cases of Small Pox into their Hospital. For other cases of infectious disease, no Isolation Hospital is available."

Dr. Garrett (Worksop) writes :—"Full use has been made of the Isolation Hospital. The advantages of such treatment to the patients are obvious, and are readily accepted by parents, while the educational work of the district is less interfered with than would be the case if these children had to be treated at home."

Dr. Wray (Basford) writes :—"Unfortunately, towards the end of the year serious defects in the drainage were discovered, and your Committee decided to close the Hospital, and have the whole system re-laid in iron pipes. This has been done, and with improved ventilation and flushing arrangements, is in every way satisfactory. At the same time the City Corporation placed two ventilating shafts and closed three open grates on the main sewer in Hucknall Road, thus abating a nuisance which was often complained of. I append Tables similar to those of last year, showing the number of cases notified and isolated in each parish, and a general statistical Table for the Sanatorium for the year."

Dr. Irvine (Huthwaite) writes :—"A Hospital (there is one for Small Pox) is needed in the district, as it is practically impossible to have complete isolation in cottage houses. I would strongly urge the Council to confer with neighbouring authorities with a view to the formation of a joint Hospital Board."

Dr. Wills (Mansfield) writes :—"It is known that more accommodation is necessary, so that there may be accommodation for cases of both Diphtheria and Scarlet Fever, and there is no doubt that an additional permanent building is required."

“You have an excellent site for such a structure on the Southwell Road, a mile and a quarter from the Market Place. The area of the site is five acres, and at present the temporary wards are used for accommodating twelve patients. It has the public water supply laid on.”

Dr. Knight (Carlton) writes:—“The arrangement with the Basford Rural District Council, mentioned in last year’s Report, for the admission of cases of Scarlet Fever and Diphtheria into its Isolation Hospital, remains in force up to the present, and during 1909 two patients suffering from Scarlet Fever were sent there.”

DISINFECTION.

One of the most serious needs of the populous districts in the County is some provision for the disinfection by steam of bedding and clothing which cannot be washed without injury. This want is very much felt in attempting to disinfect bedding and clothing after Scarlet Fever, in connection with Puerperal Fever and the Midwives’ work, and even more in connection with the crusade of the School Nurses against verminous conditions. It is little use providing clean underclothing for children suffering from body lice, when the bedding in the house cannot be disinfected. There are too many verminous homes for the burning of the bedding to be other than an expensive remedy. For the far commoner condition of verminous hair much the same is true.

The following recommendations of the Medical Officers of Health for Arnold, Beeston, Sutton-in-Ashfield, and East Retford, need to be strongly supported. Similar needs, no less acute, exist at Carlton, Hucknall, and Kirkby-in-Ashfield, besides smaller places.

Dr. Francis (Arnold) writes:—“The great want, of course, is a steam disinfecter for the purifying of things that cannot be boiled, in the absence of which a great deal depends on the good sense and intelligence of the householder.”

Dr. Rothera (Beeston) writes:—“Owing to the want of a disinfecting chamber, we are sadly handicapped in carrying out these measures efficiently, and I still hope that you may soon see your way to providing one.”

Dr. Nesbitt (Sutton-in-Ashfield) writes:—“The provision of a Steam Disinfecter has been proposed in connection with the new Gas Works buildings, and this is one of the great needs of the district. We have been badly handicapped for years by our inability to efficiently disinfect infected clothing and bedding.”

Dr. Beale (East Retford Rural) writes:—“A portable Steam Disinfecter would be of much service.”

SCHOOLS.

The Local Government Board indicate in the Memorandum of their Medical Officer issued in October, 1909, concerning the Annual Reports of Medical Officers of Health, that they desire to obtain information as to "*Schools, especially Public Elementary Schools; sanitary condition of, including water supply; action taken in relation to the health of the scholars, and for preventing the spread of infectious disease.*"

It is important that it should be thoroughly understood by Medical Officers of Health and Sanitary Authorities that (in the words of the Memorandum) the Education (Administrative Provisions) Act, under which the Medical Inspection of school children has been established, "*does not confer powers in supersession of those heretofore exercised generally in a public health sense by Sanitary Authorities under previous enactments; rather it is supplementary to existing Public Health Law, in that it requires supervision of the health of the individual child.*"

The School Medical Officers are fully occupied with "the health of the individual child." Little progress is being made in improving the water supply, sanitary conveniences, or even the lighting and ventilation of many of the Schools. The powers of the Sanitary Authorities in these respects remain just the same as they were before the Education (Administrative Provisions) Act was passed, and there is abundant scope for their exercise.

In regard to School Closure some alterations were made in the "Code" for 1909.

Under Article 57, "If the Sanitary Authority of the district in which the School is situated, or any two members thereof, acting on the advice of the Medical Officer of Health, require either the closure of the School or any department thereof, or the exclusion of certain children for a specified time, with a view to preventing the spread of disease or any danger to health likely to arise from the condition of the School, such requirement must be at once complied with."

Where a Medical Officer of Health advises the closure of a school to prevent the spread of disease, but does not act through the Sanitary Authority (District Council), or two members thereof, his letter of advice requires "the approval of the School Medical Officer," under Article 45 (b) of the Code.

Without this approval, expressed by the counter signature of the letter of advice, the Board of Education make no payment for the period during which the school is thus closed. A communication of the facts should, therefore, be made to the chief School Medical Officer. The chief School Medical Officer can also, upon his own initiative, advise the closure of a school.

Where a Medical Officer of Health is asked to advise the closure of a school at which *the attendance has been greatly reduced* on account of the prevalence of an infectious disease, and the Medical Officer of Health is of opinion that the closure of the School *will not beneficially influence the course of the epidemic*, but only prevent loss of grant, he should communicate with the chief School Medical Officer, and leave the closure to him.

NOTIFICATION OF INFECTIOUS DISEASES AND REMOVAL TO HOSPITAL.

During the year 1909, the number of cases of Infectious Disease notified was 1,635, *which is fewer than for any year since 1898*, when the population was smaller by 79,181. At the same time the proportion removed to Hospitals for isolation and treatment is higher than ever before, namely 19·8 per cent. This is highly satisfactory as shewing both the care of the Medical Officers of Health, the diminishing opposition of the family doctor, and the growing appreciation of the value of Isolation Hospitals in the eyes of the people.

The incidence of Infectious Diseases was greater in proportion to population in the Urban Districts than in the Rural in the ratio of 5·1 to 4·1 per 1,000.

Year.		Number of notified Cases.		Number removed to Hospital.		Percentage of Removals.
1895	..	1355	..	11	..	0·8
1896	..	1808	..	76	..	4·2
1897	..	1409	..	93	..	6·2
1898	..	1624	..	121	..	7·4
1899	..	2430	..	148	..	6·0
1900	..	2292	..	180	..	7·8
1901	..	1780	..	159	..	8·9
1902	..	1443	..	110	..	7·6
1903	..	1744	..	286	..	16·3
1904	..	2022	..	259	..	12·7
1905	..	2673	..	380	..	14·2
1906	..	2607	..	347	..	13·3
1907	..	1844	..	280	..	15·1
1908	..	1736	..	343	..	19·7
1909	..	1635	..	325	..	19·8

NOTIFIABLE INFECTIOUS DISEASES.**SMALL POX.**

During the year 1909 no case of Small Pox was notified in the County.

The following Table gives the number of cases which have been notified each year since 1895, and the number of deaths.

	SMALL POX.		
	Cases.	Deaths.	Case Fatality per cent.
1895	4	..	..
1896	1	..	..
1897	..	..	..
1898	..	..	..
1899	..	..	..
1900	..	..	..
1901	6	1	16·6
1902	2	0	..
1903	183	8	4·37
1904	101	3	2·97
1905	92	3	3·25
1906	2	..	0·00
1907	..	..	0·00
1908	..	..	0·00
1909	..	..	0·00

VACCINATION.

The most efficient prevention of Small Pox is vaccination and re-vaccination.

There is reason to believe, though no exact figures are available in this office, that the unvaccinated population is growing exceedingly rapidly.

The Small Pox Hospitals at present existing in the County are not calculated to deal with an epidemic such as occurred in 1903—1904, without the aid of vaccination. There is much ground, therefore, for anxiety on the part of the Public Health Authorities.

CHICKEN POX.

Chicken Pox is not usually a notifiable disease, and is seldom dangerous to life ; but it may give rise to great trouble on account of its close resemblance, in some cases, to modified Small Pox, with which it is not unfrequently confused.

SCARLET FEVER.

	SCARLET FEVER.			Attack Rate or Cases per 1000 of the Population.
	Cases.	Deaths.	Case Fatality per cent.	
1895	540	26	4·8	2·17
1896	833	30	3·6	3·30
1897	824	29	3·5	3·21
1898	732	24	3·2	2·80
1899	1,693	44	2·6	6·36
1900	1,485	45	3·0	5·48
1901	1,080	21	1·9	3·91
1902	829	13	1·5	2·90
1903	870	15	1·7	2·95
1904	984	20	2·03	3·24
1905	1,559	33	2·1	5·01
1906	1,468	28	1·9	4·59
1907	937	23	2·4	2·87
1908	793	23	2·9	2·36
1909	726	9	1·23	2·13

The number of cases notified in 1909 is the smallest since 1895. In that year notification was not compulsory, and several districts did not notify. The number, 540, therefore, probably does not comprise the whole of the cases which occurred. The **fatality** per 100 cases in the Urban Districts was 1·27, and in the Rural 1·17.

The incidence of the disease per 1,000 of the population or the "*Attack Rate*" was 2·2 per 1,000 in the Urban Districts, and 2·01 in the Rural.

The following extracts from the Reports of the Medical Officers of Health shew the difficulties they have to meet where only one disease can be isolated at a time, and where no steam disinfecter for bedding and clothing is available.

Dr. Wills (Mansfield), writes :—" In some cases isolation "was badly needed in order to prevent the disease spreading, "since the risk of infection is considerable when Searlet Fever "occurs on premises where food is sold or where a confinement "is expected. In one case, where the disease broke out at a "shop, the business had to be stopped for seven weeks. The "shopkeeper was very anxious for the removal of his child to "the hospital."

“The reason why proper isolation is so urgently needed for such cases, is that the only right method of controlling Searlet Fever and other infectious diseases, is to deal thoroughly with first cases, before they cause an epidemic which is beyond control practically, on account of the limited accommodation which is available in most places.”

Dr. Garrett (Worksop), writes :—“Cases of Searlet Fever were notified in every month, but only at the end of Summer did the outbreak assume serious proportions. Soon after the schools opened cases became numerous, and it was found that at least four families in one district had had the disease during the holidays. These children had not been under medical treatment, were not isolated, and from one family, children were sent to school, peeling. *Valuable assistance has been given by Head Teachers in reporting cases of suspicious illness among children attending their schools, and it is probable that by this means the cases, which were missed in the holidays, would have been discovered in time to prevent mischief, if the schools had been open.*”

“Seventy, or over 77 per cent. of the cases were treated in hospital. There were no return cases in the district, and no deaths from Searlet Fever during the year.”

Dr. Wills (Blyth and Cuckney), writes :—“During February, March and April, Searlet Fever prevailed in Carlton. The original cases were not satisfactorily accounted for, but the disease was thought to be spread by cases which had not been recognised at the time of their occurrence, so that proper precautions were not taken to isolate and keep the families from public places.” . . . Fifteen cases were removed to the Isolation Hospital, but it was not practicable to remove all.”

Dr. Beale (East Retford Rural), writes :—“Where a child is infected, a visit is usually paid to the school, and to the houses occupied by other children with whom the infected one may have come in contact. By this means, I have been able in several cases to find mild cases of disease which were entirely unsuspected by the parents, and which would have continued to carry the infection to others attending the school.”

“There is a great probability also that the outer garments of many of the children are not properly disinfected; a school-mistress observed to me that there had been no case for three weeks after the opening of the school, when one occurred about every ninth day, the first two of these being in children who sat next to children who had just returned after having had Searlet Fever. *A steam disinfecter would obviate this to a very large extent.*”

DIPHTHERIA AND MEMBRANOUS CROUP.

These diseases, though for a long time past called by different names, are caused by the same organism, and are now classified together under the head of Diphtheria. It should be understood that Membranous Croup is almost invariably Diphtheria affecting the larynx or wind pipe.

It will be noticed from the accompanying table, that a sudden increase in the cases of Diphtheria occurred in 1904, the numbers nearly doubling in one year. From 1904 to 1907 there was very little variation. In 1908 there was another increase of more than a quarter in the number of cases; or more exactly, 27·6 per cent. In 1909 there was a decided fall in the number of notifications. The "attack rate" in the Urban Districts was 1·5, and in the Rural 1·16. The fatality was only 8·7, the lowest hitherto recorded. In the Urban Districts it was 6·54, and in the Rural 1·35.

	DIPHTHERIA & MEMBRANOUS CROUP.			Attack Rate, or Cases per 1000 of the Population.
	Cases.	Deaths.	Case Fatality per cent.	
1895	88	35	39·7	0·35
1896	142	38	26·7	0·56
1897	137	35	25·5	0·53
1898	119	26	21·8	0·45
1899	157	27	17·2	0·59
1900	182	32	17·5	0·67
1901	186	41	22·0	0·67
1902	209	29	13·4	0·73
1903	272	35	12·8	0·92
1904	447	63	14·1	1·47
1905	442	54	12·2	1·42
1906	447	53	11·8	1·39
1907	412	44	10·6	1·25
1908	526	60	11·4	1·57
1899	469	41	8·7	1·37

In 1895 there were 26 deaths from Scarlet Fever, and 35 from Diphtheria; in 1908 there were only nine deaths from Scarlet Fever, and 41 from Diphtheria.

And yet the hospital accommodation in the County for Diphtheria is very inadequate. Several districts can only take cases of Diphtheria by using the Scarlet Fever wards and excluding Scarlet Fever.

There is, probably, no infectious disease for which properly arranged hospital isolation is more valuable. It is highly infectious, and cannot safely be treated in the same wards as, or even in close proximity to, Scarlet Fever. The affection of the throat in Scarlet Fever renders the patients very remarkably susceptible to the growth of the Diphtheria bacillus; and post-scarlatinal-diphtheria is only of too common occurrence.

So, too, there are still districts which do not provide for the free use of Antitoxin in necessitous cases, although the great value of the remedy, which unfortunately is expensive, has long been placed beyond the possibility of dispute, and innumerable lives are saved by its early use.

The following extracts from the Annual Reports of the Medical Officers of Health, indicate the most pressing needs.

Dr. Wills (Mansfield), writes:—"We have continued to make use of the Forest Hospital for cases of Diphtheria, since the disease became prevalent in 1908, and Scarlet Fever diminished in amount and became of a mild type."

"As we had not means for isolating both of these diseases, it was decided in August, 1908, to isolate the more important of the two, viz., Diphtheria, after disinfecting and cleaning the wards; and this disease was treated until December, 1909, when the wards were again disinfected and cleaned ready for Scarlet Fever cases."

"No doubt, seeing the increasing size of the town and the constant prevalence of both diseases, it is desirable to build a new permanent building in several compartments for Diphtheria, which has prevailed extensively during the last ten years, and does not show signs of disappearing."

"The disease did not seem specially connected with any locality in the town."

"There was no special incidence observed in connection with any milk supply."

"Several of the cases occurred in the same families, apparently through an early case being overlooked. In several families three cases occurred."

Dr. Francis (Arnold), writes:—"The mortality from Diphtheria has been on the decrease throughout the country for the last few years, due, I have no doubt, to the use of Antitoxin Serum, which, however, is expensive, and quite out of the reach of the very poor, and I have asked the Council several times whether they could not see their way to provide this very valuable remedy for the most necessitous cases. At present, I understand the subject has not been

“discussed, so I again ask you to give it your careful consideration. I do not think the expense would be great, as, of course, care would be taken that only those who really could not afford it would receive it free of cost.”

Dr. Rothera (Beeston), writes:—“It is consoling to find that the fight we have been waging against this disease for the last six years is at last bearing fruit, only 15 cases having been notified during the year.”

Dr. Knight (Carlton), writes:—“As a preventive, in addition to serum treatment, the removal of cases to a suitable Isolation Hospital is the best step to take. The serum is expensive, but, as I stated in my last Annual Report, it is supplied free in this district to poor people.”

Dr. Irvine (Huthwaite), writes:—“It is now usual for District Councils to make arrangements whereby antitoxin can be obtained, at the Council's expense, in cases where the poverty of the patients warranted it. The expenditure here might be added to the disinfectants' account. It is of paramount importance that Diphtheria patients be able to obtain antitoxin in fresh condition and without delay. It is of the utmost value in cases of Diphtheria, and it is wise to administer it in suspected cases. Of course, the free supply of this antitoxin should be restricted to people too poor to provide it themselves. There can be no reasonable doubt but that lives can be saved that otherwise would be lost by the timely use of this powerful and efficacious remedy.”

Dr. Wray (Basford), writes:—“Considerable advantage has been taken of the free supply of antitoxin by the medical men practising in the district, with apparently beneficial results. Sixty-nine cases were notified, of which four proved fatal, as compared with 65 cases notified with eight fatal in 1908. Twenty-four cases were removed to the Sanatorium, of which one was fatal.”

Dr. Beale (East Retford Rural), writes:—“Four cases occurred in one house at Grove, of which one was fatal, the first to occur; large doses of serum were given to the others, who recovered, and to one child as a preventive, this child not being attacked. At this house, it was discovered that the soil pipe from the water-closet upstairs was cracked, and the liquid ran through the ceiling and down the wall; in consequence of this, the closet was not in use, but as the crack was below the syphon-trap, the closet was untrapped. Not only was the pipe cracked, but it was led down the inside of the house in a corner of the dairy, and thence to a cesspool. The owner was notified at once, and the entire arrangement altered in accordance with modern requirements.”

Enteric Fever.—The cool wet summer of 1909 was unfavourable to the spread of Enteric Fever both by diminishing dust and by lessening the number of flies; and consequently the total number of cases notified was much the smallest during the last 15 years, although during that time the population has increased by 92,345. This says much for the detailed sanitary progress of the County. Although Enteric Fever can still be spread by polluted water or milk (and there has been no change of opinion upon that point) these sources of infection are so well known and have attracted so much attention, that large outbreaks from these sources have been avoided in this County for many years, and small ones are soon discovered and checked. But there are other sources of infection that have not been known so long, and with the importance of which the public mind is not yet sufficiently imbued. These are pollution of the ground and spread by infectious dust; and, far more important, the spread of infection by flies from specific excreta in privies and pails to milk and food. This is an almost universally prevailing influence wherever the dry method of removal of excreta is in vogue; and it explains the continued spread of many epidemics which previously puzzled all investigators.

Within the last very few years another unsuspected source of the origin of epidemics of Enteric Fever has been proved, beyond doubt, in the discovery of what are called Typhoid Carriers. Some persons—how many we do not yet know—having once suffered from the disease, continue to excrete living and virulent Typhoid bacilli for months or years. Such persons are specially dangerous when they are engaged in kitchens or dairies in the preparation of food. Several outbreaks of Enteric Fever in large Public Institutions have recently been traced to infection from Typhoid Carriers engaged in the kitchen.

If attention is again directed to the table, it will be seen that while the "Case fatality" remains practically unaltered, during the past 14 years, shewing that Enteric Fever is as serious and as fatal a disease as it was 14 years ago, the prevalence of the disease is very much less. Preventive Medicine has been more successful than Clinical Medicine; and the labours of the Sanitary Authorities have resulted in reducing the proportion of cases to population to less than one-third of the proportion existing in 1896! That is something worth accomplishing.

The Disease continues to be more prevalent in the Urban Districts, in which the attack rate is .36 per 1,000, compared with .30 in the Rural districts.

The following table gives the number of cases since 1895.

	ENTERIC FEVER, including "Continued."			Attack Rate or Cases per 1000 of the Population.
	Cases.	Deaths.	Case Fatality per cent.	
1895	300	44	14.6	1.21
1896	395	58	14.9	1.56
1897	277	41	14.8	1.07
1898	431	63	14.6	1.65
1899	343	46	13.4	1.29
1900	388	51	13.1	1.43
1901	257	34	13.2	0.93
1902	160	22	13.7	0.56
1903	187	31	16.5	0.63
1904	187	31	16.5	0.61
1905	206	36	17.4	0.66
1906	334	36	10.7	1.04
1907	215	29	13.4	0.65
1908	152	22	14.4	0.45
1909	116	20	14.2	0.34

Dr. Wills (Mansfield) writes :—" We frequently get "Typhoid Fever among coal miners, and the question has been "raised whether sufficient care has been exercised with respect "to the subject of sanitary observances in some collieries."

Dr. Rothera (Beeston) writes :—" Five of the cases of this "disease notified during the year occurred in one yard. . . . "The houses in this yard are supplied with tub closets, which "are in close proximity to one another, and so long as we have "this method of excreta disposal in congested and confined "areas, we must run a risk of such a disease spreading."

Dr. Nesbitt (Sutton-in-Ashfield) writes :—" As pointed out "in previous Reports, two chief factors in spreading endemic "Typhoid are unpaved yards and the pail system of excrement "disposal. A large number of yards have now been asphalted, "30 being done during the year, and their clean and improved "appearance is as pleasant to the eye as it is conducive to "health."

Dr. Broadbent (Newark Rural) writes :—" A case of "Typhoid Fever was again reported from Tolney Lane and "removed to the Hospital. The complaint was, as last year, "caused by drinking Trent water at Farndon."

Dr. Wills (Southwell) writes :—" I reported to you on an outbreak of Typhoid Fever at Oxtun, in which seven cases were notified at the beginning of November, but no fatality occurred. I pointed out that all the patients reported to be suffering from Typhoid Fever had, with one possible exception, taken water from dip wells supplied by a drain bringing water from a spring about 600 yards distant in the fields. The drain had been blocked up and caused flooding, so that the supply to the dip wells had been out of order (turbid) and unfit for use about two weeks before the illness began, and I advised you that means should be taken to procure a better supply of water for the locality where the illness occurred."

Dr. Eaton (Bingham) writes :—" The other case was also an agricultural labourer, aged 21, residing at Keyworth. This man had been engaged in carting nightsoil from Nottingham, and it is more than probable that the infection was received in the course of his employment."

Dr. Maekenzic (Kirkby-in-Ashfield) writes :—" One case occurred at Smith's Row, South Ward. The sanitary condition and defect of closet accommodation of this Row were specially noted in Report 1906. It is now proposed to asphalt the back yard and provide a closet to each house, also to improve the sculleries and house drainage, with new traps and channels for roof water and house waste. Another case in the South Ward is that of a child aged 4 years. The house and its connections, together with the back yard, are clean and tidy, but the street—Reform Street—is neither paved nor channelled. It is very questionable if one is correct in describing any house as sanitary and fit for human habitation, however tidy the curtilage may be, when bounded in front by a sludge-covered track ironically called a 'street.' . . . Five of the six cases were notified from streets not yet made, that is, neither properly paved, channelled, nor metalled. Houses situated in streets of this description are very difficult to keep clean and dry, since the inmates have, night and day, especially during wet weather, to wade through sludge in order to get to business, work, or school. . . . Every case is rigorously isolated in a specially prepared room. The attendant is not permitted to cook for the other members of the family. Typhoid pails are supplied, and the excreta removed every morning to the incineration furnace by a duly appointed person. This year in not a single instance did the infection spread to a second member in the family. Nothing, I consider, conduces to this happy result so much as prompt attention to the excreta of the patient."

Flies have long been recognised as a great trouble, and their casual connection with ophthalmia in Egypt was recognised generations ago.

So great was the annoyance caused by flies, even before they were held responsible for spreading disease, that it is related that St. Bernard excommunicated the flies in the Church of the Abbey of Foigny. They all died and were swept out! This process is represented in a stained window of old German glass in St. Mary's Church, Shrewsbury. Beelzebub, in ancient days, was given the title of "The King of the Flies!"

We possess no such simple and effective method of getting rid of flies at the present day, but the information contained in the Reports to the Local Government Board on Public Health and Medical Subjects (New Series, Numbers 5 and 16) by various authors and observers, are most useful and valuable. By the aid of the information therein contained, and the advice as to the destruction of the breeding grounds, it should be possible greatly to reduce the prevalence of flies, to the advantage of the Public Health.

Puerperal Fever.—This term is retained because it is still used in the tables issued by the Local Government Board, and it is, also, the term employed in the Infectious Disease (Notification) Acts, and cannot be altered without an amending Act. The Local Government Board have directed that for the purposes of classification in the tables issued by them the term Puerperal Fever shall be held to include:—"Pyæmia, Septicæmia, Sapræmia, Pelvic Peritonitis, Peri-Metritis and Endo-Metritis, occurring in the Puerperium." This is fair and reasonable and should also be the interpretation put upon the term in carrying out the Infectious Disease (Notification) Acts.

For the purpose of Death Certification the Registrar-General has issued his own directions, and the Nomenclature of Diseases, fourth edition, drawn up by the Royal College of Physicians, and printed for His Majesty's Stationery Office, is to be followed.

In the "Nomenclature" it is advised that the term Puerperal Fever should be abandoned, because it is too wide in its significance and is wanting in scientific precision; and that one of the more exact terms quoted above should be used instead, according to the occasion. As already mentioned, for the purposes of the Infectious Disease (Notification) Acts, the term Puerperal Fever cannot be abandoned, and others substituted, without fresh legislation. The only reasonable course for the present is to look upon Puerperal Fever as a comprehensive, generic term, and accept the definition adopted by the Local Government Board.

The following table gives the number of *notified* cases and deaths during the past fifteen years. It will be noticed that the fatality varies so enormously as to be explicable only by very incomplete notification.

	PUERPERAL FEVER.		
	Cases.	Deaths.	Case Fatality per cent.
1895	24	11	45·8
1896	18	2	11·1
1897	21	9	42·8
1898	12	5	41·6
1899	28	14	50·0
1900	21	18	85·7
1901	23	18	78·2
1902	20	9	45·0
1903	16	9	56·2
1904	17	14	82·3
1905	20	6	30·0
1906	12	7	58·3
1907	21	8	38·0
1908	29	11	37·9
1909	16	10	62·5

These do not include the deaths from "diseases and accidents of parturition," which in 1909 numbered 26. If these 36 deaths (including the 10 deaths from Puerperal Fever) comprised all the harm resulting from careless and inefficient midwifery it would be sad enough; but, as Sir William J. Sinclair, one of the Medical Members of the Central Midwives Board, has repeatedly pointed out, for every death there are at least five or six women who survive in a permanently injured condition after much suffering.

The unwillingness of some members of the Medical Profession to notify cases of Puerperal Fever constitutes one of the greatest hindrances which the Local Supervising Authorities have to overcome in carrying out the Midwives Act, in supervising the practice of Midwives, and in endeavouring to diminish the wholly unnecessary and avoidable mortality from Puerperal Fever.

To attain the maximum of efficiency, the Local Supervising Authority should not only know of every case of notified Puerperal Fever, but also of every case where a rise of temperature associated with septic conditions occurs, such as, without disinfection, could prove the source of infection of another case.

It has not been very uncommon in the past for one Midwife to carry infection to two or three, or even more patients. But this seldom happens without neglect of important and definite rules. In every case of Puerperal Fever which has come to the knowledge of the Local Supervising Authority, and where a certified Midwife has been in attendance, the Inspector of Midwives has visited the Midwife and superintended the necessary disinfection. Although *in many cases the want of a steam disinfecting stove for clothing and bedding has been felt*, nevertheless, the disinfection, as carried out, has proved to be efficient, since no second case has arisen in the practice of a Midwife shortly after disinfection.

Finally, the system of Reports upon cases of Puerperal Fever by the Medical Officers of Health to the County Medical Officer has worked extremely well, and is an essential part of the administration of the Midwives Act.

NON-NOTIFIABLE INFECTIOUS DISEASES.

Measles.—In the absence of notification, little is known as to the number of *cases* of Measles, or indeed of any of the other non-notifiable Infectious Diseases, but the number of *deaths* directly due to Measles for each of the last 15 years is shown in the following table.

Year.	Deaths from Measles.	Year.	Deaths from Measles.
1895	35	1903	42
1896	230	1904	50
1897	47	1905	177
1898	62	1906	7
1899	142	1907	147
1900	67	1908	31
1901	105	1909	98
1902	77		

This by no means represents the whole of the evil wrought by Measles, or even the whole of the mortality, as many deaths are assigned to the lung diseases which complicate Measles so frequently as to be in reality a part of the disease.

During the year 1909, 55 schools were closed on account of Measles in the Education County, excluding the schools in the Boroughs of Newark, Retford and Mansfield. This represents an amount of interference with the due progress of Education which is truly deplorable.

Whooping Cough.—The following table shews the number of deaths from Whooping Cough. Fifteen schools were closed for Whooping Cough in the education County. Most of what has already been written about Measles applies equally to Whooping Cough.

Year.	Deaths from Whooping Cough.	Year.	Deaths from Whooping Cough.
1895	61	1903	88
1896	51	1904	107
1897	129	1905	86
1898	40	1906	61
1899	37	1907	86
1900	109	1908	76
1901	71	1909	75
1902	71		

Influenza.—During 1909 the number of deaths from this insidious and mysterious disease continued large, but shews some abatement, as will be seen in the accompanying table.

Although the prevalence of Influenza is favoured by cold and damp, and especially by rapid changes of temperature, it remains essentially an infectious disease; but the knowledge of its infectious properties is very slightly acted upon in practice, and hardly any precautions are taken to prevent its spread. It is by no means unknown in the warmer seasons of the year.

The constantly increasing amount of travelling by railway and tramway, and the consequent overcrowding of carriages, together with the deficient ventilation of offices and public buildings warmed by hot water or steam pipes, without open fireplaces and their valuable ventilating powers, must be held in large measure responsible for the continued prevalence of this plague.

Year.	Fatal Cases of Influenza.
1900	152
1901	23
1902	47
1903	45
1904	44
1905	47
1906	31
1907	84
1908	69
1909	47

Diarrhœa.—This disease is mainly of importance in connection with infant life, and in hot, dry seasons assumes the characteristics of a specific epidemic disease. The statistical uncertainties consequent upon a want of uniformity in nomenclature have been already mentioned under the heading of Zymotic death-rate. In 1909, there were 76 deaths certified from Diarrhœa, and 50 from Enteritis. Of this total of 126 deaths, 97 occurred in infants under one year of age, 16 in children between one and five, and only 13 in persons over five years of age.

Year.	Deaths from Diarrhœa.	Year.	Deaths from Diarrhœa.
1895	201	1903	123
1896	88	1904	242
1897	166	1905	116
1898	240	1906	223
1899	233	1907	119
1900	158	1908	128
1901	205	1909	76
1902	85		

The cold wet summer of 1909 was unfavourable to the spread of epidemic Diarrhœa, the causes of which are more fully discussed under the heading of Infantile Mortality.

Tuberculosis.—The following table shews the number of *deaths* from Phthisis or Consumption (that is, tuberculosis of the lungs), and also from “Other Tuberculous Diseases,” that is, tuberculosis of any other organ except the lungs. We have no complete record of the *cases*, as tuberculosis is not yet compulsorily notifiable.** It is frequently estimated that for each death there are six other cases of Pulmonary Consumption which have not yet terminated. That method of calculation would give 1,470 persons suffering from Consumption in the County, besides those suffering from “Other Tuberculous Diseases.”

By a more recent calculation made by Dr. Philip † there are from 10 to 20 other cases of Pulmonary Consumption for each death. On that basis there would be from 2,450 to 4,900 *cases* of Consumption in this County, apart from those suffering from “Other Tuberculous Diseases.”

† “The Public Aspects of the Prevention of Consumption,” by R. W. Philip, M.D., F.R.C.P.E., 1908.

** From January 1st, 1909, all cases of Pulmonary Phthisis occurring in Workhouses, and all pauper cases attended outside by Poor Law Medical Officers must be notified to the Medical Officer of Health. This is a useful beginning; and before long it is hoped all cases of Phthisis will be compulsorily notifiable.

Year	Deaths from Phthisis.	Deaths from other Tuberculous Diseases.
1895	287	..
1896	233	..
1897	308	..
1898	303	..
1899	266	..
1900	256	184
1901	238	153
1902	229	173
1903	262	150
1904	256	167
1905	281	140
1906	267	160
1907	281	143
1908	242	140
1909	245	120

The proportion of deaths from Pulmonary Phthisis, or Consumption of the Lungs, per 1,000 of the population, is given in the following tables for the last ten years; and also the deaths from "*Other Tuberculous Diseases*," and from "*All Tuberculous Diseases*":—

Deaths from Phthisis per 1,000 of the Population.

	Whole County.	Urban Districts.	Rural Districts.
1900	·93	·95	·90
1901	·86	·92	·77
1902	·80	·75	·86
1903	·88	·80	1·01
1904	·84	·79	·92
1905	·90	·93	·86
1906	·83	·84	·82
1907	·85	·88	·81
1908	·72	·72	·71
1909	·71	·72	·70

Deaths from **OTHER Tuberculous Diseases per 1,000 of the Population.**

	Whole County.	Urban Districts.	Rural Districts.
1900	·67	·76	·54
1901	·55	·64	·42
1902	·60	·65	·53
1903	·50	·53	·46
1904	·55	·59	·48
1905	·45	·48	·40
1906	·50	·51	·48
1907	·43	·46	·39
1908	·41	·47	·32
1909	·35	·36	·33

**Deaths from ALL Tuberculous Diseases per 1,000 of
the Population.**

	Whole County.	Urban Districts.	Rural Districts.
1900	1·60	1·71	1·45
1901	1·41	1·57	1·20
1902	1·40	1·41	1·39
1903	1·39	1·34	1·48
1904	1·39	1·38	1·40
1905	1·35	1·41	1·27
1906	1·33	1·35	1·30
1907	1·29	1·35	1·20
1908	1·14	1·20	1·03
1909	1·07	1·09	1·04

It is particularly noticeable in the last table that there has been a continuous and steady decline year by year in the death-rate from all tuberculous diseases for the whole County, ever since the year 1900.

In the treatment of Consumption by the open-air method, this County was one of the pioneers. The Notts. Sanatorium for Consumption was opened in the year 1902, and has continued to do most useful work. But its capacities are limited by a comparatively small income, and only about 100 fresh cases can be treated each year. Much more is needed. Public opinion is being rapidly educated to understand that *all* forms of tuberculosis are preventable and many are curable; and also that the various forms of tuberculosis are one of the chief causes of death and of poverty at the present time.

Much may be expected from the establishment during the present year of a Consumption Dispensary in Nottingham, in connection with the Notts. Sanatorium and the General Hospital, upon the lines advocated by Dr. Philip of Edinburgh. Patients will be visited in their own homes, early, undetected cases searched for in the same homes, the necessary steps taken and advice given both as regards the patients themselves and the homes. This should deal adequately with the City of Nottingham; but similar work is needed in the more populous centres in the County, for which at present little is being done.

At the Worksoy Union Workhouse Hospital, a special Ward adapted for the open-air treatment of consumptive paupers has recently been opened, and should prove a very great boon. It is much to be desired that similar steps should be taken at other Workhouse Hospitals. Cases of Consumption in the later stages, when long continued illness has caused

destitution, are seldom curable ; but they are highly infectious, and constantly spread the disease to other members of the family. Great advantage results from isolating them in Work-house Hospitals where they are prevented spreading the disease and some few are restored to working capacity for a time.

The Tuberculosis Exhibition, promoted by the National Association for the Prevention of Consumption and other forms of Tuberculosis, which was opened on June 2nd, 1909, in Whitechapel, by the President of the Local Government Board was most successful, and has since been moved about to several other centres. Smaller travelling Tuberculosis Exhibitions are also doing much good and public opinion will gradually become better informed.

The continued spread of Tuberculosis by cows' milk, as established beyond any doubt whatever by the work and investigations of the Royal Commission on Tuberculosis, is dealt with under the heading of Milk Supply.

The gradual improvement of working class dwellings, both in town and country (where improvement is badly needed) under the Housing, Town Planning, &c. Act of 1909, may be expected to shew good results in the further diminution of Tuberculosis.

The following extracts from the Annual Reports of the Medical Officers of Health shew what is being done in some of the Districts in the way of disinfection, provision of pocket spittoons, &c.

Dr. Wills (Mansfield) writes :—"In all, 40 cases of "Phthisis have been notified during the year 1909."

"Those cases which have been notified during the year "have been visited, and to those living in private houses "printed instructions have been given as to precautions "necessary to be taken."

"There are some cases of advanced Pulmonary Consumption which cannot be taken to the Sanatorium, and "cannot obtain accommodation if they wish to at any hospital "in the district where they may obtain treatment away from "their homes."

"In all cases where deaths from Pulmonary Consumption "have been certified, the bedding has been disinfected by the "steam disinfector, so that a considerable number of beds and "pillows have been sent during the past year for that purpose."

Dr. Rothera (Beeston) writes :—"After removal or death "of a consumptive, your Council is willing to disinfect the "room occupied, but we must have due notice of this by the "medical man in charge of the case or the patient's relations, "or the opportunity is lost."

Dr. Maekenzie (Kirkby-in-Ashfield) writes :—" During the " year, six phthisical cases were notified to the Medical Officer " of Health, under the Public Health (Tuberculosis) Regula- " tions, 1908."

" These cases are isolated in their homes as far as " possible, pocket spittoons are provided for them by the " Council, printed instructions are left in their homes " and when a phthisical patient dies the bedroom is " stripped of all paper, walls and ceiling lime-washed, floor " scrubbed with Izal, and the house fumigated."

Dr. Garrett (Worksop) writes :—" It will be seen that the " number of deaths from this complaint, which is a preventable " disease, was the largest under any single heading. It is " estimated that for each death, there are six cases of Con- " sumption which have not yet terminated. This means that " in this district there are over 130 cases with active Tuber- " culosis of the lungs, and most of these are possible agents " in the spread of the disease to healthy individuals."

" Of the cases notified from the Infirmary, seven were " discharged, after a period of residence, to their own homes."

" Five of these were in an advanced stage, and two died " soon after discharge."

" Two made good progress. The disease is now quiescent, " and *they have both been able to follow outdoor employment " since their discharge.*"

" The cases discharged to their homes have been visited. " Disinfectants have been supplied and advice given to the " patients' attendants as to the control and disinfection of " sputum, discharges, soiled linen, etc. Properly constructed " 'spittoons' ought to be provided for the use of these patients, " with simple printed instructions for precautions to be taken " to prevent infection of other members of the family."

" At present, patients with Consumption are admitted to " a separate ward in the Workhouse Infirmary, but in the " future they will be treated in a special pavilion, which is " now in course of construction, and will accommodate about " twelve beds."

MILK SUPPLY.

It is fitting that the subject of the milk supply should be considered immediately after that of Tuberculosis, as they are closely connected. The labours of the Royal Commission on Tuberculosis have established beyond doubt that *Tuberculosis is transmissible by the agency of cows' milk used for human consumption*. The findings of the Royal Commission have been confirmed and supported in the fullest manner by the International Congresses, at Paris in 1905, and at Washington in 1908.

The violent and bitter opposition to this truth, due mostly to interested motives, has now ceased, and has been replaced by a discussion as to the proportion of cases of Tuberculosis due to cows' milk compared with the cases due to infection from human beings. This is part of the controversy concerning the relative importance of aërial infection through the air passages and the lungs, compared with infection through the alimentary canal by the ingestion of milk and other tuberculous foods, or the swallowing of dust and other substances conveyed to the mouth through the air. It is not yet quite ripe for decision, but does not greatly affect preventive measures. *Both* modes of infection are common: the relative proportion of each is not so important as the fact of their occurrence. Primary tuberculosis of the lungs may and does arise from infection through the stomach and alimentary canal.

So far as I am aware nothing is being done in this County to test milk for the presence of tubercle bacilli.

In consequence of the discovery of tubercle bacilli in London in milk supplied from Nottinghamshire, on two occasions at least, Inspectors have been sent by the London County Council into this county to inspect the suspected farms. On each occasion one or more cows with tuberculosis of the udder were discovered, and steps were taken to prevent their milk being sent to London. This was done under a private Act obtained by the London County Council. Notice was courteously sent to the Notts County Medical Officer; but on each occasion the notice was necessarily very short, and it was impossible for him to meet the Inspector.

At present there is no power to compel the slaughter of tuberculous cows which have been shown to be giving milk containing tubercle bacilli.

Much more might be done than is at present accomplished in the way of keeping milk clean and free from dirt. The chief sources of this were described in detail in last year's report. If the dirt were innocuous it would be quite sufficiently nasty; but, unfortunately, most of it—and the amount is often very considerable—is actively injurious to health. A large proportion is simply cow dung, which contains in immense numbers the two micro-organisms most commonly associated with diarrhœa, especially infantile diarrhœa, namely, the *Bacillus coli communis*, and the *Bacillus enteritidis sporogenes*. Cow dung also frequently contains tubercle bacilli, which are excreted by tuberculous cows in enormous numbers by the alimentary canal; and this is one of the common sources of tubercle bacilli in milk.

The cleanliness of milk varies greatly, and mainly depends upon the cleanliness of the cowsheds and milkers, and upon some care and grooming of the cows.

Mechanical milkers, which are now in regular use in some places, prevent dust and dirt falling into the milk pail, but introduce a new danger from the difficulty of cleaning the long indiarubber tubes which form a necessary part of the apparatus. It is the old trouble of the long tube of the babies' feeding bottle in a new form.

The very great importance of a much better water supply for dairy farms cannot be exaggerated, and emphasizes the need for all villages, that have the opportunity, to obtain a permanent public supply when they can. This subject is further discussed on pages 66-68.

The following extracts will show that progress is gradually being made in the County in carrying into effect the Dairies, Cowsheds, and Milkshops Orders, although some districts, and notably Basford, are doing little or nothing.

The country generally, and especially those interested in the purity of the milk supply, are anxiously awaiting the new milk legislation so long announced by the President of the Local Government Board.

The Milk and Dairies Bill introduced in 1909 was a very valuable advance on any previous milk legislation, and would have proved of the greatest use; but, unfortunately, the financial clauses and some of the administrative clauses aroused, quite reasonably, sufficient opposition to lead to the withdrawal of the Bill.

The delay in introducing a new Bill, and the uncertainty as to its scope, are being urged by some of the local authorities as reasons for delaying further action. This is unfortunate.

Dr. Wills (Mansfield) writes:—"The Sanitary Inspector "is also the inspector of cow-houses and milk shops in the "Borough, and has been taking the measures necessary for "the improvement of the sheds, which were defective during "the past year and previously."

"Proceedings were taken in one case before the Justices, "but the owner agreed to do what was required before the "ease came on."

"The Veterinary Inspector reported that he inspected "each cow once every quarter during the year, and found all "to be in good health, free from tuberculosis and tuberculous "diseases of the udder."

Dr. Rothera (Beeston) writes :—"By the adoption of the Dairies, Cowsheds, and Milk Shops Orders, we have now twenty-six of these premises on the register, and twice yearly they are inspected by the Sanitary Inspector and myself. I have already referred to the cowsheds, pointing out that much still remains to be done before they and their surroundings can be considered in any degree perfect."

"I still feel deeply that professional advice in the detection of tuberculous cows should be given us by the appointment of a veterinary surgeon to inspect all the milking cows at least twice yearly. In several neighbouring districts where this has been done, diseased cows have been discovered, and they have been either slaughtered or their milk excluded from sale. The cost of such a proceeding would not be great, and the expense more than compensated for by the detection and removal of even one diseased animal. With regard to the dairies and milkshops, very little milk is stored on the premises, most of it being delivered by the farmer direct to the retailer, and taken by him at once to the consumers. In no instance did we see milk exposed in open vessels on the counter, which is a thing to be rigidly avoided."

Dr. Wills (Southwell) writes :—"There is distinct evidence in the District of improvement in keeping dairy cows in two ways. The milkmen in some establishments are cleaner, and the udders of the cows are washed before milking. At several sheds the cows have been tested with Tuberculin in order to get diseased cattle removed from the dairy, and although it is to the interests of the dairymen that cows should be tested to prevent disease spreading and causing loss in the herd, it is still more important to ensure a supply of healthy milk upon which the public may rely. The Inspector of the north division of your District records improvement of drainage in three cowsheds, and there is an increasing number of cows kept in a better condition for their health and the public health."

Dr. Littlewood (Skegby) writes :—"The Orders with reference to Dairies, Cowsheds, and Milkshops, obtained in 1888, are still in force in the District. The time has now arrived for substituting the above Orders by the more modern ones, which provide for better ventilation, more air-space, better drainage, and an ample water supply. The importance of providing a pure supply of milk for the community is of the greatest possible value."
 "Everyone seems to realise the importance of a pure water supply, but comparatively few apply the same reasoning to that of milk." "In your District there are six

“dairymen, 75 eowsheds, and 51 eowkeepers. Some of the eowsheds are in good order, but there are still some in which the eonditions are far from satisfaetory. The Inspeeter of Nuisances has paid 242 visits during the year, and served 20 notices requiring the oeeupiers to limewash and generally eleanse.”

Dr. Eaton (Bingham), writes :—“The visits of the Inspeeter to the eowsheds of the Distriet are having the effect of improving their general aspect as to cleanliness.”

“Two instanees of contamination in milk supply by tuberele bacilli, owing to disease of the udder, were reported from London. The cases were visited and the affected animals removed from the sheds, isolated, and allowed to run dry preparatory to feeding them for the market.”

Dr. Manners-Smith (East Retford Urban), writes :—“The new regulations eame into foree in July, 1909, and they will do a great deal to improve the eonditions under which dairy eows are kept.”

Dr. Franeis (Arnold), writes :—“The regulations with respect to Dairies, Cowsheds and Milkshops eame into foree on January 1st.”

“The Sanitary Inspeeter and myself have inspected the eowsheds during the year. I eannot say that, at present, there is much improvement, though two of the worst have been abolished, but the others are much in the same state as in previous years.”

Dr. Knight (Carlton), writes :—“I am of opinion that a qualified veterinary surgeon, paying periodical visits with the view of diseovering diseased or tuberculous milch eows, as well as inspecting the sheds and surroundings, would be more effective in eounteraeting evils which certainly exist.”

Dr. Irvine (Huthwaite), writes :—“I have suggested to a few of the owners that limewashing of the cowsheds should be attended to more regularly.” . . . “I cannot by any means say that the sanitary eonditions of all the cowsheds in this Distriet are satisfaetory, but, at the same time, more attention seems to be paid by the owners to light, ventilation, and eleanliness. This last is the important one, and there is no excuse for the negleet of it. Many of the old eowsheds eould be greatly improved without any unreasonable or exorbitant demands upon the owners.”

Dr. Maekenzie (Kirkby-in-Ashfield), writes :—“No aetion has been taken by the Couneil or by any authority acting under speeial powers in causing dairy cows in the Distriet to be examined by veterinary surgeons.”

Dr. Houlton (Mansfield Woodhouse), writes :—"A Veterinary Inspector has been appointed during the last year, and a copy of his report is appended."

Mansfield,
January, 1910.

"Gentlemen,

"I beg to offer you a Report on the Milk Cows in Woodhouse Urban District to the end of December 31st, 1909. Since May 11th, 1909, the date of my appointment, I have inspected the cows twice, and have condemned three as tuberculous. The rest were healthy. The diseased cows were at once destroyed. I made a *post-mortem* examination of the condemned cows, and found two to be suffering from tuberculosis of the lungs, and the other from tuberculosis of both lungs and abdominal viscera. I have not come across any cases of diseased udders during inspection, and apart from the three cows mentioned as diseased, I should consider the rest to be in fair condition and health as milk beasts."

"I remain, Gentlemen, yours faithfully,

"THOMAS LUDLOW, M.R.C.V.S."

Dr. Garrett (Worksop), writes :—"All the animals in these sheds have been examined once a quarter by the Veterinary Surgeon, who advises the owners in eliminating diseased or suspicious animals from the milk supply. To do this efficiently frequent inspection is necessary, on account of the frequent importation of new animals to maintain a full supply of milk."

"Several complaints have been received of the amount of sediment in the milk from certain sheds, which shows the necessity of exercising more care during the process of milking. Such milk, even when carefully strained, will, under certain conditions of weather, very soon become a dangerous article of diet unless the precaution is taken to boil the milk as soon as it is received."

Dr. Wray (Basford), writes :—"Regulations under the Orders have been considered by you, but as it is probable the Government will bring in a Bill dealing with this matter, you have decided to await its arrival."

Dr. Wills (Blyth and Cuckney), writes :—"There are no regulations in the District with respect to Cowsheds and Dairies, so that you have no definite regulations with respect to cubic space per cow, mode of drainage and paving, means of ventilation by proper inlets and outlets for air, cleanliness of milkers."

Dr. Beale (East Retford Rural), writes :—"On the whole "the cowsheds are much better kept than was the case some "time ago. In my report for last year is a full account of the "steps which are taken, and the scheme is working well." . . . "In August, I was consulted by the Duke of Newcastle's Clerk "of Works, as to the repair and re-drainage of one of his farms "used by a milkseller. I gave advice as to re-construction of "the cowsheds, re-drainage, &c., which was all carried out. "This cowshed had already been the subject of adverse report "by me, and is now in a very good condition."

"On another farm, which had also been adversely "reported on by me, and on which advice had been sought, a "new cowshed has been built, and the old insanitary one "abolished."

Dr. Coreoran (Leake), writes :—"I strongly recommend "that a Veterinary Inspector be appointed to assist the "Inspector in this matter."

Dr. Broadbent (Newark Rural), writes :—"Your Inspector "and myself have inspected all the Registered Milksellers in "the District. One new model cowshed has been built to "replace old defective sheds, and in ten other cases improve- "ments in drainage, lighting, ventilation, lime-washing, &c., "have been carried out."

Dr. Kingsbury (Stapleford), writes :—"There is a marked "improvement in the cleanliness of dairies and cowsheds, due "in great measure to the work of Mr. F. Forman."

WATER SUPPLY.

The Special Report upon the Water Supplies of Nottinghamshire, prepared and issued in 1908, is so recent that little requires to be added. By powers conferred by an Act of Parliament passed in the present session, the Worksop Urban District Council will shortly purchase the water undertaking, at present belonging to the Worksop Waterworks Company. When this has been accomplished all the water undertakings in Nottinghamshire will be in the hands of the Public Authorities, with one or two very trifling exceptions.

In August, 1910, a Local Government Board Inquiry was held at Clowne, at which power was sought to take 750,000 gallons of water a day from the (Water) Shaft of the Manton Colliery, in the Worksop Urban District, for the use of the Clowne Rural District in Derbyshire. The water is at present being pumped to waste. The Worksop Urban District have already contracted to take water from the same source for the

supply of their own district and of the Blyth and Cuckney Rural District. The County Medical Officer attended the Inquiry, and was instructed to ask that in case of any shortage of supply the Nottinghamshire Districts should have the first claim upon the water obtained from their own district. Surely a reasonable request! At the time of writing the Local Government Board had not given their decision.

The works at Elksley, from which not more than 3,000,000 gallons a day will be taken out of the County for the use of Lincoln, are progressing, and will soon be in operation.

Attention is also drawn to the statement taken from Dr. Nesbitt's Report for Sutton-in-Ashfield, quoted on page 72, to the effect that about 20,000 persons in Derbyshire are being supplied from the Sutton Well, in which the rest-level has sunk 150 feet, with the result that there is not sufficient water remaining to enable the District Council to convert their unwholesome pail closets into water closets. Thus the public health suffers.

Dr. Farrar, in his Report to the Local Government Board dated Oct. 14, 1938, gives as his first recommendation—"That the Southwell Rural District Council should endeavour to obtain pure water supplies for certain parts of their district, which, as set forth in detail in the body of this Report, are inadequately provided in this respect."

The villages particularly mentioned as most needing a public water supply are Lowdham, Gunthorpe, Caythorpe, Oxtun, North Muskham, Sutton-on-Trent, Epperstone, Thurgarton, Gonalston, South Muskham, Cromwell, Carlton-on-Trent, Weston, Elston, Syerston, Stoke, Thorpe Batley, Norwell, Cauntun and Holme. It is further pointed out that all these villages could be supplied without difficulty by the existing undertakings of the Newark Corporation or of the Nottingham Corporation.

Nothing has yet been done.

Similar powers of obtaining a water supply for some of the villages in the East Retford Rural District are contained in the Lincoln Water Act.

There is urgent need that these powers should be used, and not left in abeyance.

It is the rule for any town or village proposing to spend money in obtaining a water supply to meet with opposition from their own people; but, when a good and abundant supply has been obtained, no instance is known where the inhabitants do not express their gratitude, and their wonder how they previously did without it.

The underground water supplies of Nottinghamshire from the Bunter Sandstone, though limited in quantity, are so excellent in quality that they are in great request. It is very difficult, when the people living in the district will not make use of the water under their feet, to prevent outside authorities, who are in want of water, from taking it. *The time is drawing nearer when the villages which do not make use of their existing powers may find themselves too late.*

The most important matter in connection with proposed water legislation is the Report by the Joint Select Committee appointed to consider the Water Supplies (Protection) Bill at present before Parliament, from which the following extracts are taken.

The recommendations to appoint a Central Administrative Authority and to divide the County into watershed areas, with Local Representative Boards, are important; as also are the observations on River Pollution.

“ORDERED TO REPORT:—

“That the JOINT SELECT COMMITTEE have met and “considered the said Bill, and having heard evidence upon the “said Bill, have unanimously resolved to report the Bill, “without amendment, to the House, and have agreed to the “following report:”—

“1. The Bill proposes to restrict the powers of authorised “water undertakers in the following ways:—(i.) By preventing “the acquisition of fresh supplies without specific Parliamentary “authority; (ii.) By rendering the undertakers liable to give “compensation for injury to private supplies caused by their “works; and (iii.) Where water is taken from one district to “supply another, by conferring on the Local Authorities of the “districts from and through which the water is taken the right “to demand a supply from the works of the undertakers on “terms to be agreed or fixed by the Local Government Board.”

“4. On the evidence given before them, the Committee “are satisfied that serious damage has been done to private “property in particular localities by the pumping operations of “water authorities; and they think it not improbable that “similar injury is also caused by collieries, breweries, railway “companies, and similar agencies, who, like water authorities, “extract water from the subsoil, but, unlike them, are under “no statutory obligations as regards the use to which such “water is put. It has been forcibly urged on the Committee “that if it be fair and equitable to levy compensation, as the “Bill proposes, from water undertakers for injury done by the “abstraction of water from the subsoil of private property, “then the application of the same rule or treatment to all “other agencies or industries causing similar injury cannot be

“resisted. In other words, it is claimed that any such change in the law as the Bill proposes should, if approved by Parliament, be made of general and reciprocal application.”

“10. Having thus expressed their opinion on the more important clauses of the Bill, the Committee desire, in conclusion, to draw attention to the larger question which has been raised by the evidence placed before them. Several witnesses have expressed their apprehension that the water supply of the country is not being utilised to the best advantage, owing to the want of information of the subject of the general water supply, particularly the subsoil supply; the haphazard and arbitrary fashion in which local sources of supply are sometimes wasted, sometimes withheld from use, and sometimes appropriated for the benefit of other and often distant places without regard to the needs of the locality from which the water is taken, or of the country as a whole. The Committee were struck by the absence of trustworthy and indeed often of any information as to the subsoil water supply available in any particular district, and as to the effect of rainfall on the water levels in various parts of the country. They even saw some reason to doubt whether the powers for protecting rivers from pollution possessed by local bodies are effectively exercised by them. They consider that a remedy for this state of things is urgently called for, and they think that it may be found by creating an organisation empowered to enquire into the whole question of surface and underground water supplies from a comprehensive standpoint; to supervise the future allocation of supplies; and to serve as an authoritative adviser to Parliament in the consideration of particular schemes.”

“11. This suggestion is really no new one. In the Report of 1869, to which reference has been made in paragraph 7 above, the Royal Commission recommended that no town or district should be allowed to appropriate a source of supply which naturally and geographically belongs to a town or district nearer to such source, unless under special circumstances which justify the appropriation.”

“12. A more specific recommendation as to the creation of a Water Authority is contained in paragraph 31 of the Interim Report of the Royal Commission on Sewage Disposal (published in 1901), which runs as follows:—

“‘We are of opinion that the general protection of our rivers is a matter of such grave concern as to demand the creation of a separate Commission, or a new department of the Local Government Board, which shall be a Supreme Rivers Authority dealing with matters relating to rivers and their purification.’”

“The question was further developed in the Third Report (referred to above) of the same Royal Commission which was published in 1903. In paragraph 44 of that Report it was stated:”—

“‘In our opinion a properly equipped Central Authority is essential, and we unhesitatingly recommend the creation of such an Authority. . . .’”

“And in paragraph 48:—‘The work of the Central Authority will be so intimately connected with the work of the Local Government Board that it will be desirable to make it a new department under the Local Government Board rather than an entirely separate department.’”

“The same Report goes on to recommend the creation of Rivers Boards throughout the country, to be formed out of Joint Committees of County Councils, each having jurisdiction over the whole of a watershed and river basin. The Central Authority would ascertain what grouping of counties was most effective, and then take steps to constitute Rivers Boards for these areas. With the aid of the Rivers Boards the Central Authority would collect the information available throughout the country in regard to waste of water by pumping from mines, the use of water in industrial works, and the abstraction of water from one district for the supply of another. The Report stated in conclusion:—‘We entirely agree that the collection of such information should precede the consideration of the question whether legislative interference in regard to these matters is desirable.’”

“Finally, the Fifth Report of the same Royal Commission summarises their recommendations on this subject as follows (paragraph 356):—‘That ultimate control should be vested in an adequately equipped Central Administrative Authority, and that, as far as practicable, the local Rivers Board should, in accordance with regulations framed by the Central Department, act as a first tribunal. Among the more important questions which have to be dealt with under the new conditions of administration which we are contemplating are the following:’ . . . (iii.) The protection of water supplies from pollution. (iv.) The collection of information as to the water supplies available in various parts of the country. (v.) The collection of information as to the need of water in various parts of the country.”

“13. The Committee cannot find that any effective action—they may indeed say any action at all—has been taken on these repeated recommendations. Thus all, it will be perceived, assert the same principle, viz., that there is urgent need for a survey, at once comprehensive and in detail, of

“the water supplies and water needs of the country, and for
 “the adoption of measures for conserving the supply and
 “disposing of it to the best advantage. A number of witnesses,
 “confirming the recommendations of these Royal Commissions,
 “have pointed out to the Committee the desirability of estab-
 “lishing some authority to take cognizance of all questions,
 “both atmospheric and geological, which affect water supplies,
 “and to serve as an authoritative referee when in any future
 “inquiries before Parliamentary Committees the allocation of
 “sources of supply comes in question. With this view the
 “Committee entirely agree, and they strongly recommend
 “firstly the establishment (within the Local Government Board
 “or independently, as may seem best to the Government) of
 “such a Central Administrative Authority as is contemplated
 “in paragraph 356 of the Fifth Report of the Royal Commission
 “on Sewage Disposal (quoted above); and secondly, the
 “division of the country into watershed areas, and the appoint-
 “ment for those areas of Local Representative Boards, who,
 “subject to the guidance and control of the Central Authority,
 “should prosecute systematic and continuous inquiries into the
 “water supply of their jurisdiction, take all necessary measures
 “to husband such supplies, both surface and subsoil; secure
 “their preservation from pollution; and advise on their alloca-
 “tion for sanitary, industrial, and other purposes.”

The following extracts are taken from the Reports of the Medical Officers of Health for the different districts.

Dr. Wills (Mansfield), writes:—“The new works at
 “Clipstone were opened officially on July 21st, when His
 “Worship the Mayor (Mr. Alderman Taylor) pointed out that
 “the population which the Corporation were supplying had
 “grown so rapidly that the Rainworth well, which was opened
 “in 1897, became insufficient, and a new supply had to be
 “found. By the kind assistance of His Grace the Duke of
 “Portland, a site had been acquired at Clipstone, and an Act
 “was passed in 1905, authorising the Corporation to construct
 “the Clipstone Waterworks, which were designed to supply
 “750,000 gallons of water per day.”

“The water is pumped by a main fifteen inches in
 “diameter for five miles to the town, and what is not required
 “passes to the Reservoir which has an altitude of a little over
 “500 feet, and is about one-and-a-half miles from the Market
 “Place.”

“Mr. Alderman Aleoek pointed out that the Corporation
 “were supplying a population of 54,000, and that the works at
 “Rainworth and Clipstone were designed to supply a popu-
 “lation of 60,000, so that the capacity of supply would soon

“be reached and more would be required. He pointed out “also that the Rainworth works had been a source of revenue “to the town since they were opened.” . . . “The water “at both the wells is protected from surface drainage by “lining the upper part of the wells with cast-iron tubbing “to the depth of 70 feet.”

Dr. Nesbitt (Sutton-in-Ashfield), writes:—“Practically all “the houses in the district derive their water from the public “supply.”

“The Waterworks were established by your Authority in “the year 1885, when the population was considerably less “than it is to-day. The supply is derived from the pebble “beds of the bunter sandstone, the well at first yielding “700,000 gallons a day. At present the yield is about 600,000 “gallons. *The rest level of the water is now 150 feet below “what it was when the well was sunk.*”

“Your Council is under agreement for a limited number “of years to supply several adjoining villages with water— “Huthwaite, Skegby, South Normanton and Blackwell—in all, “a population of about 43,000, half of which may be credited “to your own district. *Until the agreement with these “adjoining districts is determined, there is not a sufficient water “supply for the conversion of the present conservancy system of “excrement disposal to that of water carriage. There are at “present 579 houses with water closets, the remainder having “pail closets.*”

Dr. Wray (Bassford), writes:—“During the past year, “plans for the above were submitted to the Local Government “Board, and an application made to borrow a sum of £4,000 “to execute the work. Mr. Maylan’s plans were approved, “and sanction was given to the immediate borrowing of £3,150, “the sum estimated to be required for laying the Ruddington “Mains from the Nottingham Corporation Main at Wilford “Hill, the balance of £850 to be applied for when the “necessary agreements had been entered into as to the “proposed extensions. A contract has been entered into with “Mr. Sykes of Bridgford, and it is hoped that water will be “supplied to Ruddington early in 1910, and this will, I think, “be found a great boon to the village, and an inducement “towards its development.”

Dr. Wills (Blyth and Cuckney), writes:—“Blyth is “supplied by its chief proprietor with water from a boring in “the sandstone, and this has largely done away with the “surface wells, which were very unsafe.”

“Langwith Colliery Row is supplied by the same water “which is carried to the colliery village, and which, I am “informed, is pumped from the stream below.”

“Your Sanitary Inspector was instructed to report to you
“on the supply of water from Worksop Waterworks to Carlton,
“and he showed that the village could be supplied at a
“reasonable cost.”

Dr. Beale (East Retford Rural), writes:—“There are a
“few deep wells in the district, but most of the wells are
“shallow. Good water is obtained on the western side of the
“district where the water comes out of the sandstone and
“conglomerate; but on the eastern side where the soil is clay,
“the water in the wells is very hard, owing to the gypsum,
“and is often of a very suspicious character, being entirely
“surface water. It is not fit for drinking; rain-water is relied
“on in these cases. In some parts, water from the Chester-
“field Canal is used.”

“In my last Report, I considered the effect upon the
“district by the boring which the Corporation of Lincoln had
“been empowered to make. The boring has gone on and
“water has been reached, the main pipes are now being laid
“down from the boring site to Lincoln. Meetings have been
“held by the Parish Councils, and a Committee of the District
“Council was appointed in December, to consider the
“advisability of taking a supply, as allowed by the Bill, by the
“parishes of East Markham and Tuxford, but no conclusions
“have been arrived at as yet. There is no doubt but that both
“these villages will greatly benefit by the scheme if they
“decide to draw their water from the mains, as the water is of
“good quality and abundant; whereas now, they are compelled
“to rely on a limited number of wells, which are always open
“and liable to contamination from surface matter. The
“convenience, of course, is obvious.”

“Water has also been obtained in the parish of Rampton
“from a deep bore on the site of the new Criminal Lunatic
“Asylum.”

Dr. Coreoran (Leake), writes:—“The water supply of the
“district is derived exclusively from wells, and as the quality
“of well water is constantly liable to change on account of
“contamination by soakage of liquid filth from the surface of
“the adjacent ground, movement of subsoil water, etc., the
“matter has received constant attention during the year.”

Dr. Farrar (Misterton), writes:—“The water supply of
“the district is obtained from the rivers Trent and Idle, the
“Chesterfield Canal, shallow springs and rain water caught
“and stored in cisterns.”

Dr. Wills (Southwell), writes:—“No doubt, this water
“should be extended to the district in the Trent Valley, north
“and south of Newark if favourable terms could be obtained,
“unless your Council procure a supply and distribute it.”

“The water from the works of the Nottingham Corporation at Boughton, in the extreme north of your district has been utilised to supply Ollerton, Rufford, Boughton, Wellow, Kirton, Perlethorpe, Bilsthorpe, Budby, and it is very desirable that it should be extended to Walesby, Eakring, Oxtun, Epperstone, and other places which are still supplied by surface wells.”

“In Dr. Farrar’s Report, it is pointed out that Lowdham requires a water supply. This is particularly necessary, because building is going on extensively in the place and neighbourhood, and at present all the houses are supplied by surface wells, which are liable to pollution at any time, and the natural supply from the soil is much too hard, so that it is unsuitable for drinking or washing purposes.”

“Your Consulting Engineer, Mr. Sands, Milton Street, Nottingham, was instructed to report upon the practicability of obtaining water for Oxtun, either from the Nottingham main or independently, and the subject is still under consideration.”

RIVER POLLUTION.

This subject has been fully dealt with in a Special Report, dated June 20th, 1910; and little more need be added.

In a good many small villages, the sewage is taken into a small tank, the overflow from which runs straight into a ditch or stream. This is of very little value for the purpose of purification. The addition of two small filters, about two feet deep, over which the tank effluent could be intermittently distributed by means of a “tipper,” or a windmill pump would greatly increase the efficiency of these tanks at a very small cost.

Two Local Inquiries were held in the year 1909, by Inspectors of the Local Government Board, in connection with Sewage Disposal, and were attended by the County Medical Officer.

On July 16th, 1909, a Local Inquiry was held at Hucknall, at which sanction was sought for a loan of £10,435 for the purposes of sewerage and sewage disposal. The sewage disposal works were in great need of improvement and enlargement. The plans have been sanctioned and the loan granted. At the time of writing the works are in process of construction.

On November 9th, 1909, a Local Inquiry was held at Southwell, at which sanction was sought for a loan of £3,500 for purposes of sewage disposal for the Parish of Southwell. The proposed works consist of the addition of a pumping

station and filter beds, to be erected upon the existing sewage farm of ten acres. The present farm has been shown to be inadequate to purify the sewage sufficiently to produce an effluent of such a standard as will enable it to be discharged into the small adjacent semi-stagnant dyke without serious nuisance from secondary decomposition.

The loan was granted, the contract has been let, and the new works are in progress at the time of writing.

SEWERAGE AND SEWAGE DISPOSAL.

The following extracts show the progress that is being made in this respect.

Dr. Wills (Mansfield) writes:—"In the outlying parts of the town some of the houses are drained into cesspools, which have to be emptied at frequent intervals. This is, of course, a bad form of drainage for groups of houses, and should be abolished at any reasonable cost. Most of the old cesspools have been abolished."

"I am very glad to say a sewage scheme is being prepared for the new district near Southwell Road, which will abolish cesspools."

Dr. Francis (Arnold) writes:—"The cesspools on the Breck Hill Estate have again, as in former years, been constantly giving trouble. The matter, I know, is at the present time under consideration, and I trust that before long this neighbourhood will be properly sewered."

Dr. Irvine (Huthwaite) writes:—"In my last year's report I referred to the insanitary conditions of Back Lane, Little Lane, and Carnarvon Road. Left as they are, these places must be a menace to the public health. Carnarvon Road requires immediate attention. All connections with the main sewer should be made as soon as possible."

Dr. Wills (Southwell) writes:—"Another sewage problem has been dealt with at Hoveringham. The drainage dyke below the village has been held full for a long time owing to the want of cleansing at its lower end, and the very little amount of fall in the dyke itself, and beyond it after its junction with the dyke from Thurgarton. It seems very necessary that this dyke should be kept well cleaned out, because it is liable to injure the meadow land through which it runs, and this cleaning has now been done after a great deal of discussion."

Dr. Littlewood (Skegby) writes:—"Provision for the drainage of the forty houses situated at Stoneyford Lane, Skegby, has not yet been made. The negotiations with the Trustees of the late Mr. Robert Dodsley for the acquisition of the land have not yet been completed, and until these have been made no further steps can possibly be taken."

Dr. Rothera (Beeston) writes:—"In addition to the night soil, a large quantity of trade refuse has also been removed to the farm to add to the unsightly heap already there. Owing to the slight manurial value this has, we have an increasing difficulty in disposing of it to the neighbouring farmers, and in order to get rid of it 1,500 loads were spread on the farm during the winter of 1908 and 1909. This winter, owing to the mild weather, not more than 250 loads have been so disposed of, leaving about 2,000 loads still to be dealt with. This great accumulation, if allowed to remain, will become a serious nuisance during the summer, and I would suggest that the Council take the matter into serious consideration. So far as I can judge, the only method of dealing with it is by burning it in a properly constructed destructor."

"In consequence of the development of two new building estates the difficulty of dealing with storm water at the farm has been greatly increased. The fifteen-inch overflow pipe from the pumping station to the Trent is now much too small, and the sewers in the lower parts of the district have practically no outlet in wet weather. I would suggest that additional storm water outlets be provided. These could be connected to the nearest dykes on the farm, and I am informed by your Surveyor that this could be done at a small cost. The area used for crops during the year has been less than usual; that is to say, more of the farm has been used for its legitimate purpose of sewage irrigation. The thirty-two acres were used as follows:—

Fallow and Irrigation	...	...	12 $\frac{1}{5}$	acres.
Lucerne	...	...	2 $\frac{1}{2}$	"
Oats	...	...	3 $\frac{3}{4}$	"
Root Crops	...	...	6 $\frac{3}{5}$	"
Grass	...	...	2 $\frac{2}{5}$	"
Roadways, nightsoil tip, dykes, carriers, and embankments	...	...	4 $\frac{3}{5}$	"

"I have nothing to add to the remarks I made in my last report as to the desirability, even necessity, of utilising more and more of the farm for its proper purpose of dealing with the ever-increasing quantity of sewage pumped upon it, and using less of it for growing crops."

Dr. Jones (Hueknall Torkard) writes:—"The scheme of enlargement of the Sewage Disposal Works, plans of which have now been sanctioned by the Local Government Board, will shortly be carried out."

Dr. Mackenzie (Kirkby-in-Ashfield) writes:—"The sewage from Kirkby Old Hall hitherto has been discharged into a stream joining the Erewash River, and has been the cause of much trouble. This is now remedied. The Hall is provided with its own sewage works—settling tank and filter bed."

Dr. Kingsbury (Stapleford) writes:—"The result of extending the sewage outfall at Chilwell to the other side of the railway has justified the work done."

SANITARY WORK AND SCAVENGING.

It is still necessary to commence this subject by quoting the words spoken by the late Sir Richard Thorne Thorne, when Chief Medical Officer to the Local Government Board.

"The fact that with our present knowledge, such a structure as the common midden-privy should not only exist in our midst, but be clung to with a perverted tenacity, is, in my opinion, the greatest blot which attaches to English sanitary administration at the close of the nineteenth century. Apart from its sanitary aspect, it is a system as degrading and ignoble as it is foul; and I trust the day is not far distant when we shall look back to it as a barbarism of the past."

Improvements are gradually taking place, mainly as the result of the persevering recommendations of the Medical Officers of Health of the various districts. The substitution of pail-closets for privy middens is not at all a satisfactory change, unless accompanied by *an efficient system of Public Scavenging*.

From the Reports, it is abundantly evident that Public Scavenging is required in **villages** as well as in Urban Districts. Indeed the Reports show that Public Scavenging is in operation in some villages, greatly to the benefit of the health of the community.

Dr. Wills (Mansfield) writes:—"The privies in the Borough are being gradually abolished in accordance with the powers you obtained under your Private Act of 1910."

Dr. Forbes (Eastwood) writes:—"Plans for new premises are not passed unless they provide for water closets. The old-fashioned open privies and ash-pits are in about eighty-five per cent. of the houses."

Dr. Nesbitt (Sutton-in-Ashfield) writes:—"At the Central Schools very extensive sanitary improvements have been carried out, including the reconstruction of the closets, twenty-six in number, from the trough system. Each closet is now provided with separate flushing apparatus. The urinals have been abolished and modern ones substituted, and the entire drainage relaid for a distance of 117 yards."

Dr. Coreoran (Leake) writes:—"The system in vogue is the old-fashioned midden and privy arrangement, the defects of which are soaking of liquid contents into the subsoil and polluting the water supply, which, as stated above, is derived from wells."

"Efforts have been made during the last few years to reduce the number of deeply sunk middens, and to substitute for them pan closets, or middens, the floors of which as well as the sides above the level of the ground, are constructed of concrete or other impervious material, and this course of procedure will be continued in the future."

Dr. Wills (Southwell) writes:—"The system of excrement disposal is in most of the parishes by the privy midden, but in Southwell an attempt has been made successfully to abolish the privy midden, the cesspool closet and the pan closet, and to replace them by the water closet, and this has been made possible by the water supply and the sewage system which have been introduced during recent years."

"Few other places have been disposed or able to follow this example, some because there is no water supply, others because their sewage system is not suitable, several because the privy midden is not objected to, since its unhealthy influence is not understood."

Dr. Francis (Arnold) writes:—"The waste water closets are not very satisfactory, owing to there not being sufficient flush, and I understand that in future all new houses must be provided with a cistern water closet. This is a decided improvement, and will be well worth the extra outlay."

SCAVENGING.

Dr. Wray (Basford) writes:—"You contract for this to be done in the parishes of Brinsley, Burton Joyce, Colwick, Cossall, Gedling, Greasley, Kimberley, and Ruddington, for a total sum of £1,198."

Dr. Wills (Blyth and Cuckney) writes:—"The most common method used in your District is the privy midden for dealing with the excrementitious matters, and I regret

“that it is being continued in new closets. . . . Where
 “seavenging is done, as at Blyth and Carlton, a good pail
 “system is practicable; but the use of dry earth in a box
 “should be coupled with it, and there are some well-made pan
 “closets in use.”

“Seavenging is carried out at Blyth and Carlton, and the
 “pan closets are emptied every week. The privy middens are
 “emptied at intervals of one month.”

Dr. Coreoran (Leake) writes:—“There is no public
 “seavenging.”

Dr. Broadbent (Newark Rural) writes:—“The emptying
 “of tub closets in Balderton is still a great difficulty, and one
 “owner has had to be prosecuted. In my opinion, a public
 “seavenger is badly needed for this village.”

Dr. Kingsbury (Stapleford) writes:—“Public seavenging
 “at Stapleford and Brameote has been thoroughly well done
 “and has given small cause of complaint.”

Dr. Wills (Southwell) writes:—“Seavenging has been
 “maintained for many years in Southwell, but it has been
 “found difficult to get the work done satisfactorily. A good
 “deal of complaint has been made occasionally of the way
 “the seavenging has been done, and peremptory proceedings
 “have been necessary to get it carried out efficiently.”

“The pan closets and ash-bins have been cleansed weekly,
 “but the privy middens every three months. A cart is sent
 “round monthly to collect old tins and bottles, etc., and it has
 “proved very useful during the year.”

“I was directed to make a Report upon the present con-
 “dition of Edwinstowe, Sutton and Lowdham, as regards
 “seavenging.”

“After that Report, which was made in July, application
 “was made to the Local Government Board for authority to
 “undertake the seavenging of Sutton and Lowdham.”

Dr. Francis (Arnold) writes:—“There is the ever-increas-
 “ing difficulty of getting rid of the refuse in the district, and
 “it is a problem that will have to be faced in the near future.
 “The present mode can only be a temporary expedient, and
 “cannot go on indefinitely.”

“A refuse destructor is badly wanted. It is an expensive
 “concern, and I suppose out of the question; but destruction
 “by fire is the only rational and sanitary method of dealing
 “with this waste material.”

Dr. Irvine (Huthwaite) writes:—"In the district a regular system of scavenging is carried on. The most of this work is done by contract. The material collected is deposited at a suitable locality away from all dwellings. The converting of privy middens into the more sanitary pail closets has been continued during the year. . . . A great part of the expense of scavenging required by the pail closet system is obviated by the water carriage system. Statistics go to show that places which have adopted the water carriage system suffer much less from epidemic diarrhœa than those retaining other methods of removal of excrement."

Dr. Hunter (West Bridgford) writes:—"There are now 372 pail or tub closets, an increase of 20 over last year. This increase at first sight seems a retrograde step, but as it means 20 fewer privy ash-pits, it is really an improvement. Pail closets are undesirable, but privy middens are still more so, and it is a question of choosing the lesser of two evils. There still remain 475 of these privy middens, the one blot in the sanitary arrangements of the district, a decrease of 25 for the year."

Dr. Garrett (Worksop) writes:—"Since the scavenging was taken over by the Council last year, night soil and house refuse have been removed in a systematic and more efficient manner."

DESTRUCTOR.

Dr. Hunter (West Bridgford) writes:—"This plant continues to give the greatest satisfaction in its dual capacity of burning all the refuse and as a steam raiser. A small amount of coal slack, costing under 5/- a ton, is mixed with the refuse in order to obtain the steam necessary for the increasing amount of pumping. The cost of repairs to the installation is exceptionally low. The work of the Destructor goes on very smoothly from year to year, with no nuisance to anyone and with very small cost to your parish."

THE PAVING OF YARDS.

Dr. Littlewood (Skegby) writes:—"Under the bye-laws it is incumbent on all builders of property to make due provision for the paving or asphaltting of back yards, but in your District there is a large number of houses which were built prior to the adoption of the bye-laws, where the paving is inadequate and generally unsatisfactory. It is important that the Inspector of Nuisances should see that the number is lessened every year."

Dr. Irvine (Huthwaite) writes :—" One essential requiring attention is the insanitary condition of the backyards. In places the yards are either badly paved or not paved at all. The soil is either loose, or porous, or made up, and consequently polluted with excrementitious and decaying organic matter."

SMOKE PREVENTION.

Little or nothing is being done outside the City of Nottingham in the way of diminishing the smoke nuisance, although there are many parts of the County which suffer severely, and in no direction can action be taken by a Public Authority with so much mutual benefit.

The prevention of the pollution of the air by smoke is one of the duties imposed upon Sanitary Authorities, by Sections 91 (Sub-Sections 7 and 8), 92 and 102, of the Public Health Act, 1875,

Rural District Councils have the same powers and the same duties as Urban Councils as regards Smoke prevention.

Many Collieries and some Factories are situated in Rural Districts, and there is no valid reason *even of an economic kind* to excuse the present pollution of the air by black smoke. The economy consists in smoke prevention by more careful stoking and more complete combustion of the fuel. Smoke is waste as well as a nuisance.

Mechanical science, in its application to proper combustion of fuel, whether the fuel be coal or the gas obtained from it, is now quite capable of relieving us from this nuisance. Further, *this much-needed relief may be obtained in a manner quite consistent with economy*, so far as steam production is concerned.

The value of pure air is gradually being more and more appreciated, now that the difficulty of obtaining it is daily increasing. The question of "aerial sewage," as it has been termed, is attracting much attention. The importance of the evil has been recognised by the Physical Deterioration Committee, in Clause 7 of their recommendations. In the coal mining parts of the country, smoke pollution concerns the Rural Districts, as well as the Urban. Smoke prevention is already successfully accomplished in some cases, and there is no sufficient reason why smoke consuming furnaces and careful stoking should not be required in all.

Sir William Ramsay, F.R.S., in his address in 1896, referred to some points in connection with smoke production, which cannot be known too widely. He said, "Smoke condenses atmospheric vapour, causing fog and rain, *renders our climate colder*, and makes our lives more or less unhappy and uncomfortable. It *shuts out sunlight*, and thus increases the growth, and tends towards the multiplication of bacteria, many of which are of a dangerous character."

In the vegetable world, there can be no doubt that smoke injures trees and damages crops both directly and through the diminution of sunshine induced.

HOUSING.

No communication was made to the County Council or to the County Medical Officer during the year 1909, under the Housing of the Working Classes Acts, 1890 to 1909. The following information as to the house accommodation in the County is taken from the Annual Reports of the Medical Officers of Health of the various districts.

Dr. Wills (Mansfield) writes :—"I have looked over many of the houses with two bedrooms only, and some appear to be fairly well built, but the space allotted for scullery and kitchen is, in several instances, too cramped, so that it does not appear sufficiently large for doing the work of the house comfortably."

"I have heard no faults found by the occupiers, except that some houses are occupied by persons with growing families. This will be the chief objection to them, for the labouring classes are not all aware of the great importance and necessity for a sufficient air space for their children, and having once settled in a dwelling they stop in it too long for the growth of their families."

Dr. Irvine (Huthwaite) writes ;—"Many of these new houses are fitted up with baths and all necessary conveniences, and asphalted yards. This last is certainly a step in the right direction. A noticeable feature is that families leave the old houses and move into the new ones." . . .
"Fourteen of these new houses were supplied with water closets and the rest with pail-closets."

Dr. Wills (Blyth and Cuckney) writes ;—"Some parts of your district are well supplied with houses chiefly built with stone, but in other parts of the district, at Old Cotes and Harworth chiefly, I have called your attention to cottage houses unfit for habitation, and measures have been taken to

“get them improved.” . . . “Some villages such as Blyth
 “have been remarkably improved in recent years by the
 “enterprising and benevolent action of their chief owners, in
 “providing good water, repairing buildings, and making
 “drainage. In other villages the conditions have not improved
 “as they should have done.”

“There are no building bye-laws in the district, so that
 “there is little control over the erection of new buildings, and
 “it would be better to have building bye laws if building takes
 “place for the mining population.”

Dr. Kingsbury (Stapleford) writes :—“This tends to im-
 “prove rather than to deteriorate. Overcrowding, which was
 “once a common source of danger, is rare, and has only to be
 “known to be stopped. What was once the worst slum
 “quarter of Stapleford has been improved out of all knowledge,
 “to the benefit of the landlord and tenants alike.”

Dr. Wills (Mansfield) writes :—“Continuous efforts have
 “been made during the year to improve or abolish the slum
 “property in the borough.”

OVERCROWDING.

Dr. Eaton (Bingham), writes :—“Cases of overcrowding
 “have been reported and remedied at Langar, Shelton, Crop-
 “well Butler, Cropwell Bishop, and Radcliffe-on-Trent.”

Dr. Francis (Arnold), writes :—“No glaring instances of
 “overcrowding have come to my notice during the year, though
 “I have had occasion once or twice to draw attention to this
 “subject, and the householders have done their best to remedy
 “the evil.”

HOUSES UNFIT FOR HABITATION.

Dr. Francis (Arnold), writes :—“I reported one case during
 “the year, but no action was taken. There is some other
 “property in the district which I would condemn, but as it has
 “been empty all the year, I have not brought it to your notice.”

Dr. Knight (Carlton), writes :—“One house has been
 “condemned as unfit for habitation, and two cases of over-
 “crowding have been dealt with.”

Dr. Forbes (Eastwood), writes :—“The houses on Canal
 “Side, known variously as ‘Noah’s Ark’ and ‘Goose Holes,’
 “are in a bad state, and should either be converted into single
 “houses with improved sanitary conveniences, or else closed
 “altogether. Your Inspector has called the owner’s attention
 “to them, and I believe some minor improvements have been
 “made, but they are not in a properly habitable condition.”

SLAUGHTER-HOUSES.

Dr. Wills (Mansfield), writes:—"Your Inspector informs me that the Slaughter-houses are visited at the time of slaughtering, as far as it is possible. Some of them are three miles apart, and to inspect them all at the time of slaughtering and carry out other multifarious duties he says "would be impossible."

"Public slaughter-houses are much needed for the better accommodation of the butchers, and in order that some of the private ones should be abolished."

Dr. Francis (Arnold), writes:—"Systematic inspection has been made of these by the Sanitary Inspector and myself. There are six licensed. There were no great defects to find in any of them; they were all, with one exception, quite clean, and there was no fault to be found in the ventilation and drainage in any." . . . "The times of slaughtering are so varied, that it only occasionally happens that it is actually in progress at the time of visiting."

Dr. Irvine (Huthwaite), writes:—"I have made numerous visits to the Slaughter-houses, and consider that they are conducted in a satisfactory manner. Most of them are situated at a reasonable distance from any dwelling houses. I have not heard of any complaints as to their being a nuisance to anyone in their immediate vicinity. My suggestions respecting the limewashing, means of drainage, and covering the walls a few feet from the floor with gas-tar, have been in the majority carried out. In one case I have again drawn the owner's attention to the more frequent limewashing, the early removal of all refuse material, and the flushing of the premises after slaughtering."

Dr. Mackenzie (Kirkby-in-Ashfield), writes:—"It is gratifying to report that more improvement has been made in new and enlarged slaughter-house accommodation during the year under review than any year since we became an Urban Authority."

"The slaughter-houses are often visited at the time of slaughtering."

"There is no Inspector with a special meat certificate."

"One full carcase and parts of a carcase were found to be tuberculous and were destroyed."

Dr. Nesbitt (Sutton-in-Ashfield), writes:—"These number 16, all private, and two Knacker's Yards, all of which have been kept in a fairly satisfactory condition. Notices for

“the removal of blood and offal were served in two instances, and were immediately complied with. Close supervision has been paid to this department, and it is gratifying to report that no appearance of tuberculous disease or unfitness for food has been seen in any of the animals slaughtered.”

“It has been necessary, however, to prosecute for slaughtering in unlicensed premises, for which the defendant was convicted and fined.”

SALE OF FOOD AND DRUGS ACTS, 1875 to 1907.

During the year 1909 the County Medical Officer had not anything to do with the administration of the Sale of Food and Drugs Acts in this County, and was not consulted. But in accordance with (7) (g) of the New Order, as to the Duties of County Medical Officers of Health, the following epitome taken from the Reports of Committees to the County Council for January 25th, 1910, is appended.

Food and Drugs. Annual Report—The Inspectors have purchased and examined 531 samples during the year 1909, and have submitted 349 of these samples to the County Analyst for analysis, with the following results:—

FOOD AND DRUGS, ETC., COMMITTEE (25TH JANUARY, 1910).

	Submitted for Analysis.	Genuine.	Adulterated.
Butter	96	96	..
Coffee	6	6	..
Blanc Powder	1	1	..
Chewing Wax	2	2	..
Milk	168	139	29
Pepper	15	15	..
Sweet Spirits of Nitre	6	4	2
Tincture of Rhubarb	2	2	..
Vinegar	23	23	..
Whisky	20	6	14
Gin	1	1	..
Rice.. .. .	8	4	4
Rum	1	..	1
	349	299	50

FACTORIES, WORKSHOPS, AND BAKEHOUSES.

The amount and kind of work that is being done by the Health Authorities under the recent Act is shown on the accompanying Tables; and also by the following extracts from the Annual Reports of the Medical Officers of Health.

Dr. Wills (Mansfield) writes :—"The sanitary arrangements of two bakehouses have been improved during the year ; one by the better disconnection of the sink drain, and one by providing better sanitary accommodation and ventilation."

"One underground bakehouse still remains in Mansfield, and one is partially underground. Three of the newest bakehouses are well arranged and well kept."

"Your Lady Inspector has looked over the dressmakers' and milliners' establishments ; also she has inspected the rooms of outworkers. Several excellent improvements have been made through her instrumentality."

"In accordance with the Act, important alterations in sanitary accommodation have been carried out under the supervision of the Surveyor in factories and workshops. He was called in to remedy complaints of the sanitary offices of two factories which were very faulty."

Dr. Francis (Arnold) writes :—"Instructions have had to be given from time to time to limewash more frequently. This appears to be the chief failing in workshops generally."

"Framework knitters, bakers, joiners, and shoe repairers are the chief occupiers of workshops in this district."

"The bakehouses were in an exceptionally good condition ; two or three certainly required fresh limewashing, but apart from this they were in quite a clean state."

"There is one underground bakehouse, which complies with all the requirements."

Dr. Knight (Carlton) writes :—"There are 58 workshops, all of which have been inspected. A written notice was sent to the occupier of a bakehouse, which was in a dirty condition, and resulted in rectification of the same. In other cases, limewashing, where needed, was done by the occupiers as requested."

Dr. Irvine (Huthwaite) writes :—"I have periodically inspected the Factories and Workshops, and at one of the former places have drawn the manager's attention to limewashing. The sanitary accommodation had also got into a neglected condition, and required a thorough overhauling. I was told that these defects would be attended to at once."

FACTORIES, WORKSHOPS, WORKPLACES, AND HOMEWORK. Year 1909.

URBAN DISTRICTS.	Number of Workshops on the Register. (Including Bakehouses.)	Number of Workplaces on the Register. (Other than Outworkers' Premises.)	Number of Inspections, including Inspections made by Sanitary Inspectors.			DEFECTS FOUND.								Underground Bakehouses.		Outworkers.			Homework.		Failure to affix Abstract of the Factory and Workshop Act.
			Factories (including Factory Laundries).	Workshops (including Workshop Laundries).	Workplaces. (Other than Outworkers' Premises.)	Nuisances under the Public Health Act.				Offences under the Factory and Workshop Act.				Certificates granted.	In use at the end of 1909.	Number of Lists received.	Number of Outworkers.	Number of Inspections of Outworkers' Premises.	Notices prohibiting Outwork in Unwholesome Premises.	Orders prohibiting Outwork in Infected Premises.	
						Found.	Remedied.	Referred to H.M. Inspector.	Prosecutions.	Found.	Remedied.	Referred to H.M. Inspector.	Prosecutions.								
MANSFIELD	29	..	16	143	..	50	41	..	..	11	8	..	..	..	..	10	258	283	..	..	13
NEWARK	134	..	..	134	..	40	33	..	..	5	5	..	..	..	3	9	124	..	2	..	10
EAST RETFORD	86	..	..	79	..	23	..	..	..	..	..	..	..	..	..	6	..	..	..	..	..
ARNOLD	87	..	33	166	..	10	10	..	..	..	..	..	..	1	1	10	126	94	..	3	..
BEESTON	53	..	26	44	..	32	32	..	..	..	..	..	..	..	..	20	12	82	..	1	7
CARLTON	58	..	6	58	60	1	1	..	..	..	..	..	..	..	..	60	..	3	..	..	5
EASTWOOD	18	..	11	68	..	4	3	..	..	..	..	..	..	..	..	..	..	..	..	..	1
HUCKNALL TORKARD	62	..	38	206	16	19	19	..	..	1	1	..	..	..	1	26	307	18	..	..	3
HUTHWAITE	3	..	3	3	..	..	..	..	..	..	..	..	..	..	..	2	50	several	..	..	..
KIRKBY-IN-ASHFIELD	7	..	6	18	16	1	1	..	..	..	..	..	..	..	..	6	96	96	..	37	..
MANSFIELD WOODHOUSE	8	..	4	32	..	..	..	..	..	..	..	..	..	..	..	2	36	31	..	..	..
SUTTON-IN-ASHFIELD	83	..	62	170	15	4	4	..	..	..	..	..	..	..	..	57	1051	427	5	8	..
WARSOP .. .. .	..	..	..	..	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
WEST BRIDGFORD .. .. .	..	..	2	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
WORKSOP	59	..	76	258	12	7	7	..	..	..	..	..	..	..	..	9	14	28	..	..	..

Year 1909.

[illegible]

Dr. Garrett (Worksop) writes :—" Lists have been received "twice in the year from employers employing home workers, "and the work rooms have been inspected. No case of "infectious disease occurred in any of these houses during the "year."

"The sanitary accommodation in 18 factories was inspected "and found satisfactory, except in three instances. In these "the defects have been remedied."

Dr. Corcoran (Leake) writes :—" Seventy-four inspections "were made of outworkers' premises ; in none of these inspec- "tions was infectious disease discovered."

Dr. Kingsbury (Stapleford) writes :—" The condition of "factories, workshops, and bakehouses in the district reaches a "high standard ; the surroundings under which outworkers are "employed could not well be improved upon."

Dr. Wray (Basford) writes :—" The work put out is chiefly "lace mending and hosiery seaming. The outworkers as a "rule are thrifty, and their homes clean, but the very fact of "their taking in home work in many cases points to large "families ; still in no case coming under my notice have I "come across a case of preventable overcrowding, and no case "of notifiable infectious disease has occurred in an outworker's "home."

Dr. Mackenzie (Kirkby-in-Ashfield) writes :—" All the "outworkers' premises were visited, and in 37 instances work "was suspended owing to infection in the home. This large "number, as compared with other years, was due to the "prevalence of measles in epidemic form. No other infectious "disease occurred in the homes of homeworkers."

BAKEHOUSES.

Dr. Eaton (Bingham) writes :—" The bakehouses of the "district have been duly inspected, and cleansing and lime- "washing ordered where necessary."

Dr. Irvine (Huthwaite) writes :—" The bakehouses are, on "the whole, in a satisfactory condition. Limewashing is done "regularly, and all the appliances used in the process of baking "are kept clean."

Dr. Wray (Basford) writes :—" In four of the bakehouses "I visited I found it necessary to order limewashing, and this "was done."

HOUSING, TOWN PLANNING, &c., ACT, 1909.

The duties and responsibilities of the County Medical Officer of Health have been much increased and extended by Part iii. of the Housing, Town Planning, &c., Act., 1909, from which the following Clauses, relating to his duties, are taken; and by the subsequent Order of the Local Government Board, number 801, issued July 29th, 1910, as quoted below.

HOUSING, TOWN PLANNING, ETC., ACT, 1909.

PART iii.

SECTION 68. (2.) The duties of a Medical Officer of Health of a County shall be such duties as may be prescribed by general order of the Local Government Board, and such other duties as may be assigned to him by the County Council.

(4.) The Medical Officer of Health of a County shall, for the purposes of his duties, have the same powers of entry on premises as are conferred on a Medical Officer of Health of a district by or under any enactment.

(5.) The Medical Officer of Health of a County shall be removable by the County Council with the consent of the Local Government Board and not otherwise.

SECTION 69.—(1) The Clerk of a Rural District Council shall forward to the Medical Officer of Health of the County, a copy of any representation, complaint, or information, a copy of which it is the duty of the District Council to forward to the County Council under Section 45 of the Housing of the Working Classes Act, 1890 (which relates to the powers of County Councils).

(2) The Medical Officer of Health of a district shall give to the Medical Officer of Health of the County, any information which it is in his power to give, and which the Medical Officer of Health of the County may reasonably require from him for the purpose of his duties prescribed by the Local Government Board.

(3) If any dispute or difference shall arise between the Clerk or the Medical Officer of Health of a District Council and the Medical Officer of Health of a County Council under this Section, the same shall be referred to the Local Government Board, whose decision shall be final and binding.

(4) If the Clerk or Medical Officer of Health of a District Council fails to comply with the provisions of this Section, he shall, on information being laid by the County Council, but not otherwise, be liable on summary conviction in respect of each offence to a fine not exceeding ten pounds.

The following are the duties prescribed in the County Medical Officers of Health (Duties) Order, 1910, dated July 29th, 1910. Number 801. Made in accordance with Section 68 (2) of the Housing, Town Planning &c., Act, 1909.

- (1) The Medical Officer of Health of the County shall inform himself as far as practicable respecting all influences affecting or threatening to affect injuriously the public health in the County. For this purpose he shall visit the several County districts in the County as occasion may require, giving to the Medical Officer of Health of each County district prior notice of his visit, so far as this may be practicable.
- (2) The Medical Officer of Health of the County shall from time to time inquire into and report upon the hospital accommodation available for the isolation of cases occurring in the County—
 - (a) of Small Pox, and
 - (b) of other infectious diseases,
and upon any need for the provision of further hospital accommodation.
- (3) The Medical Officer of Health of the County shall communicate to the Medical Officer of Health of a County district within the County any information which he may possess as to any danger to health threatening that district.
- (4) The Medical Officer of Health of the County shall consult with the Medical Officers of Health of County districts within the County whenever the circumstances may render this desirable.
- (5) If the Annual or Special Reports of the Medical Officer of Health of a County district in the County shall not contain adequate information in regard to
 - (a) the vital statistics of the district,
 - (b) the sanitary circumstances and administration of the district, and
 - (c) the action taken in the district for putting in force the provisions of the Housing of the Working Classes Acts, 1890 to 1909,
 the Medical Officer of Health of the County shall obtain from the Medical Officer of Health of the County district such further information on those matters as the circumstances may demand.

- (6) The Medical Officer of Health of the County shall, when directed by Us, or by the County Council, or as occasion may require, make a Special Report to the County Council on any matter appertaining to his duties under this Order.
- (7) The Medical Officer of Health of the County shall as soon as practicable after the 31st day of December in each year, make an Annual Report to the County Council up to the end of December on the sanitary circumstances, the sanitary administration and the vital statistics of the County.

In addition to any other matters upon which the Medical Officer of Health may consider it desirable to report, his Annual Report shall contain the following sections:—

- (a) A digest of all Annual and Special Reports made by the Medical Officers of Health of all County districts within the County;
 - (b) a section as to the isolation hospital accommodation available for each County district, and as to the steps which should be taken to remedy any deficiencies which may exist;
 - (c) a section on the administration of the Housing of the Working Classes Acts, 1890 to 1909, within the County;
 - (d) a section on the water supply of the several County districts within the County;
 - (e) a section on the pollution of streams within the County, and as to the steps for the prevention of pollution taken:—
 - (i.) by the local authorities, and
 - (ii.) by the County Council;
 - (f) a section on the administration within the County of the Midwives Act, 1902; and
 - (g) a section on the administration of the Sale of Food and Drugs Acts, 1875 to 1907, within that part of the County in which the County Council have jurisdiction for the purposes of those Acts.
- (8) The Medical Officer of Health of the County shall send to Us two copies of his Annual Report and two copies of any Special Report; he shall also send one copy of his Annual Report to the Council of every County district in the County, and shall send three copies of any Special Report to the Council of every such County district affected by the Special Report.

This Order may be cited as the County Medical Officers of Health (Duties) Order, 1910.

Table I. NOTTINGHAMSHIRE. Vital Statistics for the Year 1909.
BOROUGHES AND URBAN DISTRICTS.

BOROUGHES AND URBAN DISTRICTS.	Area in Acres Exclusive of area covered by water.	Persons per Acre.	Inhabited Houses at Census, 1901.	Persons per House at Census, 1901.	Population, Census 1901.	Population, Estimated to the middle of 1909.	Births.		Deaths under 1 year of age.		Total Deaths Registered at all Ages.		Net Deaths at all Ages belonging to the Districts.	* * Net Death Rate, i.e., Death Rate corrected for Institution Deaths.	Average Death Rate of the ten years 1899-1908.	Death Rate from Tubercular Diseases, 1909.	Death Rate from principal Zymotic Diseases, 1909.
							Number.	* Rate.	Number.	Rate per 1000 Births Registered.	Number.	* Death Rate.					
MANSFIELD (Borough)	7,208	4.5	4,369	4.9	21,445	34,000	1,108	32.5	120	108	507	15.2	467	14.0	16.2	1.56	1.26
NEWARK (Borough)	1,899	8.7	3,416	4.3	14,992	16,650	441	26.5	56	126	273	16.4	273	16.4	16.3	1.26	1.32
EAST RETFORD (Borough)	4,498	3.0	2,707	4.5	12,340	13,698	366	26.7	31	84	192	14.0	182	13.2	14.1	0.87	1.46
ARNOLD	4,612	2.3	1,799	4.8	8,757	10,755	320	29.7	51	159	157	14.5	169	15.7	14.2	1.39	2.51
BEESTON	1,586	7.4	1,978	4.5	8,930	11,286	279	24.7	26	91	99	8.7	114	10.1	11.6	0.70	1.24
CARLTON	1,400	10.9	2,159	4.6	10,041	15,813	457	28.9	41	89	139	8.7	154	9.7	11.3	1.32	0.68
EASTWOOD	940	5.5	948	5.0	4,815	5,220	154	29.5	17	110	63	12.0	67	12.8	14.3	0.83	0.41
HUCKNALL TORKARD ..	3,270	5.2	3,126	4.8	15,250	17,000	540	31.7	69	127	208	12.2	228	13.4	14.8	1.23	1.82
HUTHWAITE	1,199	4.1	789	5.0	4,076	5,250	193	36.7	21	108	52	9.9	58	11.0	16.4	0.38	1.14
KIRKBY-IN-ASHFIELD ..	5,814	2.8	2,055	5.0	10,318	16,834	579	34.3	76	131	187	11.1	200	11.8	13.1	0.83	0.29
MANSFIELD WOODHOUSE	4,834	2.06	961	5.0	4,877	10,500	421	40.0	62	147	128	12.0	134	12.0	15.8	0.85	1.61
SUTTON-IN-ASHFIELD ..	4,786	4.1	2,993	4.9	14,862	20,435	674	32.9	75	111	224	10.9	242	11.8	15.7	0.68	0.44
WARSOP	5,728	0.7	429	4.9	2,132	4,477	177	39.5	18	101	56	12.5	57	12.7	14.8	1.34	1.56
WEST BRIDGFORD	1,123	10.1	1,544	4.5	7,018	11,934	182	15.2	8	43	72	6.0	75	6.2	7.7	0.25	0.08
WORKSOP	17,930	1.06	3,258	4.9	16,112	19,564	614	31.3	61	99	277	14.1	267	13.6	16.5	1.53	1.43
Totals for Urban Districts	66,827	3.1	32,531	4.7	155,995	213,416	6,505	30.4	732	112	2,634	12.3	2,687	12.5	14.5	1.31	1.37

* Rates calculated per 1000 of the estimated population.

** The Nett Death Rate is arrived at by taking the whole of the Deaths registered during the year in the District, adding the Deaths of residents registered beyond the District, and subtracting the Deaths of non-residents registered within the District.

Table II. NOTTINGHAMSHIRE. Vital Statistics for the Year 1909.
RURAL DISTRICTS.

RURAL DISTRICTS.	Area in Acres, exclusive of area covered by water.	Persons per Acre.	Inhabited Houses at Census 1901.	Persons per House at Census 1901.	Population, Census 1901.	Population estimated to the middle of 1909.	Births.		Deaths under one year of age.		Total Deaths registered at all ages.		Nett Deaths at all ages belonging to the Districts.	Nett Death Rate, i.e., Death Rate corrected for Institution Deaths. * *	Average Death Rate of the ten years 1899-1908.	Death Rate from Tuberculous Diseases, 1909.	Death Rate from principal Zymotic Diseases, 1909.
							Number.	Rate. *	Number.	Rate per 1000 Births registered.	Number.	Death Rate. *					
BASFORD	61,868	·66	8,115	4·7	38,365	41,762	1,206	28·8	121	100	513	12·2	548	13·1	13·7	0·71	0·88
BINGHAM	66,574	·21	3,250	4·1	13,612	14,132	314	22·2	18	57	237	16·7	193	13·6	17·0	1·27	0·28
BLYTH AND CUCKNEY	28,208	·16	1,005	4·5	4,562	4,730	110	23·2	5	45	72	15·2	81	17·1	14·2	1·90	0·63
EAST RETFORD ..	92,740	·15	3,321	4·6	14,239	14,236	329	23·1	30	91	200	14·0	216	15·1	13·8	1·26	0·70
LEAKE	17,073	·21	861	4·3	3,709	3,709	64	17·2	4	62	49	13·2	54	14·5	13·9	0·81	0·27
MISTERTON	14,268	·29	805	4·4	3,618	4,234	94	22·2	15	159	46	10·8	51	12·1	14·4	0·94	0·23
NEWARK	36,619	·21	1,795	4·3	7,738	8,035	204	25·3	24	117	94	11·6	101	12·5	13·5	1·36	0·74
SKEGBY	12,405	·53	1,071	5·1	5,478	6,836	211	30·8	17	80	64	9·3	66	9·6	13·5	0·87	0·43
SOUTHWELL	117,638	·16	4,573	4·1	19,114	18,950	398	21·0	32	80	292	15·4	300	15·8	15·7	0·95	0·31
STAPLEFORD	4,860	2·02	1,708	4·6	7,873	9,950	294	29·5	37	125	120	12·0	124	12·4	13·2	1·50	0·80
Notts. Parishes administered by SHARDLOW ..	2,360	·17	79	5·2	413	415	11	27·9	0	0	3	7·2	3	7·2	10·1	0·00	0·00
Totals for Rural Districts ..	454,613	·27	26,583	4·4	118,721	126,989	3,235	25·4	303	93	1,690	13·3	1,737	13·6	14·2	1·08	0·65

* Rates calculated per 1000 of the Estimated Population.

** The Nett Death Rate is arrived at by taking the whole of the Deaths registered during the year within the District, adding the Deaths of residents registered beyond the District, and subtracting the Deaths of non-residents registered within the District.

Table III. NOTTINGHAMSHIRE. Cases of Infectious Disease notified during the Year 1909.
BOROUGH AND URBAN DISTRICTS.

BOROUGH AND URBAN DISTRICTS.	Small Pox.	Diphtheria (including Membranous Group).	Erysipelas.	Scarlet Fever.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Cerebro-Spinal Fever.	Chicken Pox.	Phthisis.	TOTAL.	Whether there is any Isolation Hospital for Infectious Diseases?	Total available Beds.	Number of Diseases that can be concurrently treated.	Total Cases removed to Isolation Hospital.	Name of the Medical Officer of Health.	Whether the Annual Report is printed?
MANSFIELD (Borough)	..	93	37	73	9	..	2	..	..	40	254	Yes	{ 12 15	Small Pox. Diphtheria.	47	H. C. T. Langdon, B.A., M.R.C.S.	Yes
NEWARK (Borough)	..	78	6	13	9	..	..	..	..	14	120	Yes	{ 12 4 4	Diphtheria. Scarlet Fever Small Pox.	73	Charles Wills, M.R.C.S.	Yes
EAST RETFORD (Borough)	..	9	12	15	4	..	..	..	..	3	43	Yes	{ 18 8	Scarlet Fever Small Pox.	0	A. E. Manners-Smith, M.R.C.S.	Yes
ARNOLD	..	3	1	26	1	..	..	..	..	..	31	* †	..	..	4	Harvey Francis, M.D.	Yes
BEESTON	..	15	6	21	6	..	1	..	..	..	49	*	..	..	7	Frank Rothera, M.D.	Yes
CARLTON	..	20	18	69	5	..	..	..	..	..	112	* †	..	..	2	J. T. Knight, M.R.C.S.	Yes
EASTWOOD	..	2	1	3	8	..	..	..	..	..	14	No	..	..	0	D. M. Forbes, F.R.C.S.	Yes
HUCKNALL TORKARD	..	12	16	34	2	..	2	1	..	..	67	Yes	30	Small Pox.	0	H. T. Jones, M.R.C.S.	Yes
HUTHWAITE	..	1	4	17	4	..	..	..	..	..	26	Yes	12	Small Pox.	0	Robert Irvine, L.R.C.P.	Yes
KIRKBY-IN- ASHFIELD	..	10	15	19	6	..	..	..	..	6	56	Yes	14	One	0	John Mackenzie, L.R.C.P.	Yes
MANSFIELD WOODHOUSE	..	32	13	18	2	..	1	..	..	..	66	†	..	..	0	Ernest H. Houfton, M.D.	Yes
SUTTON-IN- ASHFIELD	..	18	9	36	12	..	2	..	..	..	77	Yes	10	Small Pox.	0	R. Nesbitt, L.R.C.S.I.	Yes
WARSOP	..	6	12	2	5	..	..	..	..	..	25	No	..	..	0	H. W. Horan, M.B., B.S.	Yes
WEST BRIDGFORD	..	13	2	34	2	..	..	..	..	..	52	†	..	..	2	Walter Hunter, M.D.	Yes
WORKSOP	..	9	12	90	1	..	1	..	..	..	113	* * Yes	20	Small Pox.	71	T. C. Garrett, M.B.	Yes
TOTAL		321	164	470	77		9	1		63	1,105				206		

† There is an arrangement with the Mansfield Corporation to admit cases of Small Pox and Scarlet Fever into their Isolation Hospitals.

* These districts contribute to the Joint Small Pox Hospital at Hucknall.

† These districts have an agreement with the Basford Rural District Council by which cases of Scarlet Fever and Diphtheria can be received into the Basford Sanatorium.

* * Cases of Scarlet Fever, Diphtheria, and Enteric Fever are sent to the Joint Hospital situated in the Blyth and Cuckney District.

Table IV. NOTTINGHAMSHIRE. Cases of Infectious Disease notified during the Year 1909.
RURAL DISTRICTS.

RURAL DISTRICTS.	Small Pox.	Diphtheria (including Membranous Croup).	Erysipelas.	Scarlet Fever.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Cerebro-Spinal Fever.	Chicken Pox.	Phthisis.	TOTAL.	Whether there is any Isolation Hospital for Infectious Diseases?	Total available Beds.	Number of Diseases that can be concurrently treated.	Total Cases removed to Isolation Hospital.	Name of the Medical Officer of Health.	Whether the Annual Report is printed?
BASFORD	..	69	29	101	16	..	5	..	..	..	220	Yes	28	Enteric Fever Scarlet Fever Diphtheria	71	G. B. Wray, M.R.C.S., D.P.H.	Yes
BINGHAM	..	13	4	24	2	..	..	..	..	..	43	No	..	..	0	J. W. Eaton M.R.C.S.	Yes
BLYTH AND CUCKNEY	..	8	..	34	..	..	..	..	..	..	42	Yes	16	Scarlet Fever and Diphtheria or Enteric	26	Charles Wills, M.R.C.S.	Yes
EAST RETFORD	..	13	2	43	2	..	..	..	..	..	60	No	..	..	0	Hanway R. Beale, M.D.	Yes
LEAKE	..	4	2	1	3	..	..	..	..	..	10	†	..	..	0	Thos. Corcoran, L.R.C.S.I.	Type-written
MISTERTON	..	2	5	3	2	..	..	..	..	..	12	Yes	3	Small Pox	1	W. W. Farrar, M.B.	Type-written.
NEWARK	..	20	12	11	1	..	..	..	..	..	44	** No	..	..	0	Frank Broadbent, M.R.C.S.	Yes
SKEGBY	..	4	3	13	1	..	..	..	..	..	21	No	..	..	0	J. O. Littlewood, M.R.C.S., D.P.H.	Yes
SOUTHWELL	..	14	6	23	9	..	2	..	..	1	55	Yes	10	Scarlet Fever or Diphtheria and Small Pox	21	Charles Wills, M.R.C.S.	Yes
STAPLEFORD	..	1	16	3	3	..	..	..	..	..	23	*	..	..	0	E. Kingsbury, M.D.	Yes
NOTTS. PARISHES administered by SHARDLOW	No	..	..	0	J. A. Hogg, M.R.C.S.	Yes
TOTALS	148	79	256	39	..	7	..	..	1	530				119		

† There is an arrangement with the Borough of Loughborough whereby cases of Enteric Fever and Diphtheria may be sent to the Loughborough Isolation Hospital.

* This district contributes to the joint Small Pox Hospital at Hucknall.

** The Newark Borough Small Pox and Diphtheria Hospitals are situated in the Rural District, but are not available for patients from the Rural District.

Table V. NOTTINGHAMSHIRE. Vital Statistics for the Year 1909.
WHOLE ADMINISTRATIVE COUNTY.

	Area in Acres.	Persons per Acre.	Inhabited Houses at Census, 1901.	Persons per House at Census, 1901.	Population, Census, 1901.	Population Estimated to the middle of 1909.	Births.		Deaths under 1 year.		Total Deaths registered at all Ages.		Net Deaths belonging to the Districts.	Death Rate, Corrected for Institution Deaths.	Average Death Rate for the ten years 1899-1908.	Death Rate from Tuberculous Diseases, 1909.	Death Rate from Principal Zymotic Diseases, 1909.
							Number.	Rate.	Number.	Rate per 1,000 Births.	Number.	* Death Rate.					
URBAN DISTRICTS	66,827	3.1	32,531	4.7	155,995	213,416	6,505	30.4	732	112	2,634	12.3	2,687	12.5	14.5	1.31	1.37
RURAL DISTRICTS	454,613	.27	26,583	4.4	118,721	126,989	3,235	25.4	303	93	1,690	13.3	1,737	13.6	14.2	1.08	0.65
WHOLE ADMINISTRATIVE COUNTY.	521,440	.64	59,114	4.6	274,716	340,405	9,740	28.6	1,035	106	4,324	12.7	4,424	12.9	14.4	1.07	1.04

* Rate calculated per 1,000 of the estimated Population.

Table VI. Causes of Death during the Year 1909. URBAN DISTRICTS.

DISTRICTS.				Small Pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria (including Membranous Croup).	Croup.	Fever (Enteric and Continued).	Epidemic Influenza.	Diarrhoea.	Enteritis.	Gastritis.	Puerperal Fever.	Erysipelas.	Phthisis.	Other Tuberculous Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism. Cirrhosis of Liver.	Veneral Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	Old Age.	Convulsions.	Apoplexy.	Debility from Birth.	All other Causes.	All Causes.
MANSFIELD	..	..	4	1	11	5	..	5	2	17	6	2	..	2	37	16	26	19	31	..	7	4	5	19	5	37	12	3	..	19	..	9	163	467
NEWARK	..	..	5	..	14	..	..	2	4	1	2	..	1	..	13	8	15	25	27	..	1	6	3	15	1	16	3	1	31	4	..	7	68	273
EAST RETFORD	..	..	11	..	3	2	..	..	1	4	1	..	..	..	5	7	8	6	12	..	..	4	..	9	1	16	3	3	..	3	..	2	81	182
ARNOLD	..	..	10	1	7	..	..	1	..	8	..	..	..	..	10	5	10	25	13	..	1	1	3	8	2	8	6	..	..	1	..	3	46	169
BEESTON	..	..	1	1	6	1	..	1	..	4	1	..	..	..	6	2	10	9	8	..	..	1	1	4	2	6	1	2	10	1	11	5	20	114
CARLTON	..	..	2	1	1	3	..	..	2	4	2	..	..	..	14	7	15	6	11	..	..	1	..	7	1	19	5	..	8	4	..	12	29	154
EASTWOOD	..	..	..	..	..	..	..	1	..	1	2	1	..	..	4	..	2	4	15	..	5	..	..	3	1	5	..	..	..	..	5	2	16	67
HUCKNALL TOR-KARD	..	..	28	..	..	..	1	..	..	2	1	4	1	..	10	11	9	16	20	..	..	2	..	9	..	25	6	2	..	3	..	11	67	228
HUTHWAITE	..	..	..	..	..	1	..	..	..	5	..	..	1	..	2	..	2	6	2	..	..	1	..	6	..	6	3	..	1	4	..	4	14	58
KIRKBY-IN-ASHFIELD	..	..	1	..	1	1	..	..	4	2	..	..	..	1	8	6	7	9	23	..	2	1	..	18	1	18	8	2	..	12	..	14	61	200
MANSFIELD WOODHOUSE	..	..	1	..	3	3	..	1	1	9	..	..	..	1	9	..	9	2	15	..	1	..	2	17	3	12	2	..	..	10	..	5	28	134
SUTTON-IN-ASHFIELD	..	..	3	1	1	1	..	2	1	1	10	1	2	..	8	6	11	17	10	..	..	1	..	19	4	31	8	2	..	6	..	20	76	242
WARSOP	..	..	5	..	..	2	..	..	1	..	2	..	..	..	4	2	..	6	4	..	..	..	..	2	..	8	1	..	..	2	..	7	11	57
WEST BRIDGFORD	..	..	1	..	..	..	..	..	..	..	1	..	..	..	3	..	9	1	10	..	..	3	..	4	2	12	..	..	1	3	..	..	25	75
WORKSOP	..	..	7	..	13	2	..	1	3	5	6	3	..	..	22	8	16	14	14	..	3	1	1	18	..	19	5	..	18	3	14	14	57	267
TOTAL	..	..	78	6	60	21	1	14	19	63	34	11	5	4	155	78	149	165	215	..	20	26	15	158	23	238	63	15	69	75	30	115	762	2,687

Table VII. Causes of Death during the Year 1909. RURAL DISTRICTS.

DISTRICTS.			Small Pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria (including Membranous Croup).	Croup.	Fever (Enteric and Continued).	Epidemic Influenza.	Diarrhoea.	Enteritis.	Gastritis.	Puerperal Fever.	Erysipelas.	Phthisis.	Other Tuberculous Diseases.	Cancer, Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism. Cirrhosis of Liver.	Venereal Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	Old Age.	Convulsions.	Apoplexy.	Debility from Birth.	All other Causes.	All Causes.
BASFORD	8	2	7	5	2	3	5	10	5	2	3	2	20	10	46	58	53	1	7	2	1	26	2	47	26	3	..	19	..	8	165	548
BINGHAM	2	..	..	2	..	..	6	..	..	..	..	1	17	1	13	18	11	..	..	4	..	4	..	35	4	3	..	1	..	4	67	193
BLYTH AND CUCKNEY	3	..	..	2	..	..	..	..	1	5	4	6	5	4	..	..	1	..	3	..	11	3	..	10	1	..	..	22	81
EAST RETFORD	4	..	2	2	..	2	4	..	1	1	..	..	7	11	9	21	16	1	1	5	..	11	..	32	5	2	..	8	..	1	70	216
LEAKE	1	1	..	..	..	..	..	2	1	1	4	3	..	..	1	..	1	1	4	2	..	..	..	..	1	31	54
MISTERTON	1	..	..	..	..	..	..	..	..	..	2	2	4	3	3	..	..	..	..	..	..	5	1	..	10	2	4	10	4	51
NEWARK	1	5	..	..	..	..	1	..	..	..	5	6	9	8	9	..	..	1	..	7	..	11	1	..	..	..	..	3	34	101
SKEGBY	1	2	..	..	..	..	1	..	..	1	4	2	4	6	8	..	..	..	..	3	1	4	3	..	7	2	..	4	13	66
SOUTHWELL	1	1	3	1	..	..	8	..	3	2	2	2	15	3	24	18	9	1	1	2	..	8	..	30	8	5	50	2	..	4	97	300
STAPLEFORD	5	..	..	..	..	..	2	3	5	..	..	..	13	2	12	13	9	1	1	1	..	11	..	9	4	1	12	6	2	6	6	124
Notts. Parishes administered by SHARDLOW	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	3
TOTAL	20	3	15	20	2	6	28	13	16	5	5	7	90	42	130	154	125	4	10	17	1	74	4	188	57	14	89	42	6	41	509	1,737

Table VIII. NOTTINGHAMSHIRE. Causes of, and Ages at, Death during the Year 1909. URBAN DISTRICTS.

CAUSES OF DEATH.	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Measles	78	20	49	6	..	3	..
Scarlet Fever	6	..	4	2	..	..	..
Whooping-cough	60	29	30	1	..	..	..
Diphtheria (including Mem- branous Croup)	21	2	7	11	..	1	..
Croup	1	..	1	..	..	..	..
Enteric Fever	14	..	1	3	3	7	..
Epidemic Influenza ..	19	..	1	2	1	6	9
Diarrhœa	63	53	6	1	..	2	1
Enteritis	34	24	8	..	..	..	2
Gastritis	11	4	..	..	..	2	5
Puerperal Fever	5	..	..	..	2	3	..
Erysipelas	4	1	1	..	1	..	1
Phthisis (Pulmonary Tuberculosis)	155	..	9	5	42	94	5
Other tuberculous diseases	78	27	31	8	4	8	..
Cancer, malignant disease	149	..	1	..	..	88	60
Bronchitis	165	42	18	2	1	29	73
Pneumonia	215	53	58	7	9	57	31
Pleurisy .. .. .	..	..	..	..	..	..	..
Other diseases of respiratory organs	20	4	2	1	1	8	4
Alcoholism Cirrhosis of Liver }	26	..	..	1	..	19	6
Veneral diseases	15	14	1	..	..	..	..
Premature birth	158	157	1	..	..	..	..
Diseases and accidents of Parturition	22	..	..	..	4	18	..
Heart diseases	238	3	2	8	6	114	105
Accidents	63	2	9	6	11	25	10
Suicides	15	..	..	..	3	10	2
Old Age	69	..	..	..	..	1	68
Convulsions	75	72	3	..	..	..	..
Apoplexy	30	..	..	..	2	9	19
Debility from Birth ..	115	113	2	..	..	..	..
All other causes	763	112	47	30	24	251	299
All causes	2,687	732	292	94	114	755	700

Table IX. NOTTINGHAMSHIRE. Causes of, and Ages at, Death during the Year 1909. RURAL DISTRICTS and WHOLE COUNTY.

CAUSES OF DEATH.	All ages.	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards	DEATHS IN WHOLE ADMINISTRATIVE COUNTY AT ALL AGES
Measles	20	4	16	..	..	..	..	98
Scarlet Fever	3	..	2	1	..	..	..	9
Whooping-cough	15	5	10	..	..	..	..	75
Diphtheria (including Membranous Croup)	20	1	2	17	..	..	..	41
Croup	2	..	1	1	..	..	..	3
Enteric Fever	6	..	..	1	2	3	..	20
Epidemic influenza	28	..	2	1	1	12	12	47
Diarrhœa	13	9	..	..	..	3	1	76
Enteritis	16	11	2	..	..	3	..	50
Gastritis	5	1	1	..	..	1	2	16
Puerperal fever	5	..	..	..	2	3	..	10
Erysipelas	7	1	..	..	1	2	3	11
Phthisis (Pulmonary Tuberculosis)	90	..	2	6	15	63	4	245
Other tubercular diseases	42	7	8	5	8	12	2	120
Cancer, malignant disease	130	..	..	1	..	61	68	279
Bronehitis	154	41	13	4	..	28	68	319
Pneumonia	125	28	24	2	2	38	31	340
Pleurisy	4	..	..	..	1	2	1	4
Other diseases of respiratory organs	10	..	4	..	1	2	3	30
Alcoholism }	17	..	..	..	..	12	5	43
Cirrhosis of Liver }								
Venereal diseases	1	1	..	..	..	..	..	16
Premature birth	74	74	..	..	..	..	..	232
Diseases and accidents of parturition	4	..	..	..	..	4	..	26
Heart diseases	188	3	1	3	6	55	120	426
Accidents	57	1	7	4	12	25	8	120
Suicides	14	..	..	..	2	10	2	29
Old Age	89	..	..	..	..	1	83	158
Convulsions	42	41	1	..	..	..	..	117
Apoplexy	6	..	..	..	..	2	4	36
Debility from Birth	41	41	..	..	..	..	..	156
All other causes	509	34	25	15	20	128	286	1272
All causes	1,737	303	122	61	73	470	708	4424

Table X. NOTTINGHAMSHIRE. URBAN DISTRICTS.

Infantile Mortality during the Year 1909. Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.				Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under 1 Year.
Common Infectious Diseases	Small-pox .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Measles .. ..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	3	3	5	3	20
	Scarlet Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Diphtheria (including Membranous Croup) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	2
	Whooping Cough .. ..	..	..	..	1	1	1	2	6	1	1	..	3	4	3	3	4	4	1	29
Diarrhœal Diseases.	Diarrhœa, all forms ..	..	..	..	1	1	1	1	2	6	9	11	3	8	3	4	4	4	1	53
	Enteritis, Muco enteritis, Gastro-enteritis ..	..	..	1	1	2	2	2	3	1	8	1	..	3	2	1	1	1	..	24
	Gastritis, Gastro- intestinal Catarrh ..	..	..	..	..	..	..	..	..	2	1	..	1	..	..	..	..	..	..	4
Wasting Diseases.	Premature Birth	116	13	8	6	143	8	3	3	..	..	..	..	..	..	..	..	..	..	157
	Congenital Defects ..	25	2	1	3	31	4	..	..	..	1	2	1	..	1	..	1	..	..	40
	Injury at Birth	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	Want of Breast-milk, .. Starvation ..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	2
	Atrophy, Debility, Marasmus ..	19	9	10	9	47	15	16	15	5	3	5	2	1	..	3	1	1	1	113
Tuberculous Diseases.	Tuberculous Meningitis ..	..	..	..	1	1	..	1	1	1	2	..	2	1	1	1	1	..	..	11
	Tuberculous Peritonitis: Tabes Mesenterica ..	..	..	..	..	..	1	..	..	..	..	..	1	3	2	..	..	..	..	7
	Other Tuberculous Diseases ..	..	..	..	..	..	..	3	1	..	1	..	2	1	..	..	..	1	..	9
Other Causes	Erysipelas .. ..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	Syphilis .. ..	..	1	1	2	4	5	2	1	..	..	..	2	..	..	..	..	1	..	15
	Rickets .. ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
	Meningitis (not Tuberculous) ..	..	1	..	..	1	..	1	..	1	..	1	2	1	1	1	..	2	..	10
	Convulsions	14	5	3	4	26	8	10	8	..	5	2	2	3	..	3	5	5	..	72
	Bronchitis .. ..	..	..	1	3	4	5	5	3	6	1	3	5	8	..	1	1	1	..	42
	Laryngitis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Pneumonia	2	..	..	1	3	..	..	7	4	5	4	1	8	3	11	7	7	..	53
	Suffocation, overlying ..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	2
	Other Causes	15	2	2	1	20	8	5	1	4	7	3	4	3	3	3	3	3	3	64
All Causes				192	33	28	33	286	62	57	50	41	40	29	44	40	20	36	27	732

Table XI. NOTTINGHAMSHIRE. RURAL DISTRICTS.

Infantile Mortality during the Year 1909. Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.				Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under 1 Year.
Common Infectious Diseases	Small-pox .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Measles .. ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	1	..	4
	Scarlet Fever .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Diphtheria (including Membranous Croup) ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
	Whooping Cough ..	..	..	..	..	..	..	..	..	..	..	2	..	1	..	..	..	1	..	4
Diarrhoeal Diseases.	Diarrhoea, all forms ..	..	..	2	1	3	1	1	1	..	2	..	2	..	..	..	..	..	1	9
	Enteritis, Mucro-enteritis, Gastro-enteritis	1	..	..	..	1	..	1	3	3	1	1	1	..	..	1	..	..	..	11
	Gastritis, Gastro- intestinal Catarrh	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Wasting Diseases.	Premature Birth	58	4	4	3	69	1	3	..	1	..	..	..	..	..	..	..	..	..	74
	Congenital Defects ..	4	1	1	1	7	..	2	..	1	..	1	1	1	..	..	1	..	..	13
	Injury at Birth .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Want of Breast-milk, Starvation	1	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	2
	Atrophy, Debility, Marasmus	8	1	..	..	9	3	6	11	5	1	..	2	..	..	..	3	1	..	41
Tuberculous Diseases.	Tuberculous Meningitis ..	..	..	..	..	..	1	..	1	..	..	..	..	1	..	..	..	..	..	3
	Tuberculous Peritonitis: Tabes Mesenterica	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	2
	Other Tuberculous Diseases	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	2
Other Causes	Erysipelas .. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1
	Syphilis .. ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1
	Ricketts .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Meningitis (not Tuberculous)	..	..	..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	3
	Convulsions	8	3	2	1	14	11	1	3	4	..	2	3	..	..	1	2	41	..	41
	Bronchitis	2	..	1	2	5	5	2	3	2	3	9	4	2	3	2	5	45	..	45
	Laryngitis .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Pneumonia	2	..	..	2	4	..	..	2	3	2	2	2	3	3	2	2	25	..	25
	Suffocation, overlying	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
	Other Causes	6	1	4	1	12	1	..	1	2	..	1	1	..	1	..	..	..	..	19
All Causes				91	10	14	11	126	25	17	26	25	11	19	14	8	9	12	11	303

TABLE XII.

NOTTINGHAMSHIRE.

Abstract of Vital Statistics.

Year.	Estimated Population at the middle of the year.	Annual Increase of Population.	Rate of Increase per cent. on Population of preceding Year.	Persons per Acre.	Inhabited Houses at Census 1901.	Persons per House at Census 1901.	Registered Births.	Births per 1000 of the Population.	Deaths under 1 year per 1000 Births.	Registered Deaths.	Deaths per 1000 of the Population.	Death Rate corrected for deaths in Institutions.	Death Rate corrected for Institutions, and age and sex distribution.	Deaths from the Principal Zymotic Diseases per 1000 of the Population.
1881	205,328	..	..	·39	44,014	4·6	..	..	..	..	..	..	..	..
1891	232,776	..	..	·44	49,186	4·7	8202	35·2	138	4135	17·7	..	..	..
1892	236,770	3994	1·71	·46	..	..	8007	33·9	147	4051	16·7	..	..	..
1893	240,026	3256	1·37	·46	..	..	7949	33·1	..	4087	17·0	..	..	..
1894	243,965	3939	1·64	·47	..	..	7747	31·7	130	3585	14·7	..	..	..
1895	248,060	4095	1·67	·48	..	..	8066	32·5	154	4128	16·6	..	..	..
1896	252,282	4222	1·70	·49	..	..	8154	32·3	138	3987	15·8	..	..	..
1897	256,667	4385	1·73	·5	..	..	8186	31·8	152	4115	16·0	..	..	1·7
1898	261,224	4557	1·77	·505	..	..	8117	31·0	151	4187	16·0	..	..	1·74
1899	265,952	4728	1·80	·51	..	..	8266	31·0	161	4375	16·4	..	..	2·01
1900	270,862	4910	1·84	·52	..	..	8292	30·6	160	4617	17·0	..	..	1·75
1901	275,971	5109	1·88	·53	59,114	4·6	8636	31·3	145	4139	14·9	..	14·3	1·79
1902	285,673	9702	3·51	·54	..	..	8920	31·2	138	4116	14·4	14·4	13·8	1·29
1903	294,566	8893	3·11	·56	..	..	9072	30·7	134	4146	14·0	13·7	13·4	1·38
1904	303,283	8717	2·95	·58	..	..	9379	30·9	139	4375	14·4	14·1	13·8	1·70
1905	310,085	6802	2·24	·59	..	..	8880	28·6	126	4451	14·3	14·1	13·7	1·63
1906	319,612	9527	3·07	·61	..	..	9088	28·4	121	4148	12·9	13·2	12·3	1·28
1907	327,340	7728	2·41	·62	..	..	8962	27·3	127	4479	13·6	13·8	13·0	1·36
1908	334,939	7599	2·32	·64	..	..	9818	29·3	119	4367	13·0	13·3	12·4	1·01
1909	340,405	5466	1·63	·65	..	..	9740	28·6	106	4324	12·7	12·9	12·3	0·94
For comparison—														
1909	England and Wales	..	..	..	..	..	..	25·6	109	..	14·5	..	14·5	1·12
	76 Great Towns	..	..	..	..	..	..	25·7	118	..	14·7	..	15·6	1·42
	142 Smaller Towns	..	..	..	..	..	..	24·8	111	..	13·9	..	14·5	1·08
	England and Wales less the 218 Towns	..	..	..	..	..	..	25·6	98	..	14·5	..	13·6	0·80

The Populations for the years 1892—1901 inclusive, have been corrected according to the information derived from the censuses for 1891 and 1901. The Populations for the years 1902—1909 are the totals of the Populations of the 26 Districts as estimated by the Medical Officers of Health for each District.

The Statistics for England and Wales are those published in the Quarterly Return of the Registrar-General for January, 1910. They are subject to revision when the causes of death and other details shall have been finally classified for publication in the Registrar-General's 72nd Annual Report. The alterations, however, are usually inappreciable.

Table XIII. NOTTINGHAMSHIRE. RAINFALL.

DISTRICT.	Total depth in inches, 1909.	No. of Rainy days 1909.	Total depth in inches, 1908.	No. of Rainy days, 1908.	Total depth in inches, 1907.	No. of Rainy days, 1907.	Total depth in inches, 1906.	No. of Rainy days, 1906.	Total depth in inches, 1905.	No. of Rainy days, 1905.	Total depth in inches, 1904.	No. of Rainy days, 1904.	Total depth in inches, 1903.	No. of Rainy days, 1903.	Total depth in inches, 1902.	No. of Rainy days, 1902.	Height of gauge above ground.	Height above Sea level.	STATION AND OBSERVER.
EAST RETFORD .. (Urban)	30·21	201	21·26	183	24·68	191	20·44	168	17·35	158	19·86	166	29·51	187	19·69	169	..	..	J. D. KENNEDY, Esq., Market Square, Retford.
BEESTON	28·56	188	25·54	185	27·75	193	26·47	185	20·44	184	21·65	174	35·00	203	21·84	190	9 inches	206 ft.	G. FELLOWS, Esq., Beeston Fields, Nottingham.
EASTWOOD	28·62	205	26·14	194	30·15	193	28·87	182	21·72	162	21·19	157	34·40	186	24·84	178	1 ft.	245 ft.	BARBER, WALKER & Co., Eastwood, Nottingham.
BASFORD	27·22	162	22·45	159	24·70	169	24·55	168	20·57	161	20·57	141	34·32	173	23·43	175	1 ft.	475 ft.	Mr. S. MAYLAN, Selston Waterworks, near Annesley, Nottingham.
BASFORD	28·99	194	23·77	189	26·89	184	25·52	168	19·33	167	19·40	162	31·64	197	23·09	189	1 ft.	396 ft.	T. L. K. EDGE, Esq., Strelley, Nottingham.
BASFORD	23·91	146	20·555	161	23·973	171	22·471	162	18·378	118	19·439	155	28·57	180	19·68	161	1 ft.	65 ft.	A. A. AVIS, Esq., Corporation Farm, Stoke Bardolph, Nottingham.
BASFORD	26·03	196	21·690	186	25·390	194	24·030	178	19·510	168	21·11	174	..	..	..	..	9 inches	65 ft.	F. W. DAVIES, Esq., Burton Joyce Waterworks, Nottingham.
BLYTH & CUCKNEY	27·83	189	20·38	179	23·66	197	23·43	179	16·91	152	19·81	165	27·95	190	22·10	170	..	56 ft.	H. MELLISH, Esq., Hodsock Priory, Worksop.
NEWARK (Rural)	27·88	..	21·29	209	23·01	193	19·32	138	17·51	129	17·21	119	27·48	152	17·36	141	1 ft.	28 ft.	E. TURTON, Esq., North Collingham, Newark.
SOUTHWELL ..	27·18	214	21·10	198	..	..	..	..	..	..	..	..	..	..	..	..	1 ft.	131·27 ft.	H. HANDFORD, Esq., M.D., Southwell.
KINGSTON & RAT- CLIFFE ..	25·29	218	21·08	181	22·76	183	21·26	165	..	..	..	..	..	..	..	..	..	..	F. WAKERLEY, Esq., Midland Agricultural & Dairy College, Kingston, Derby.

